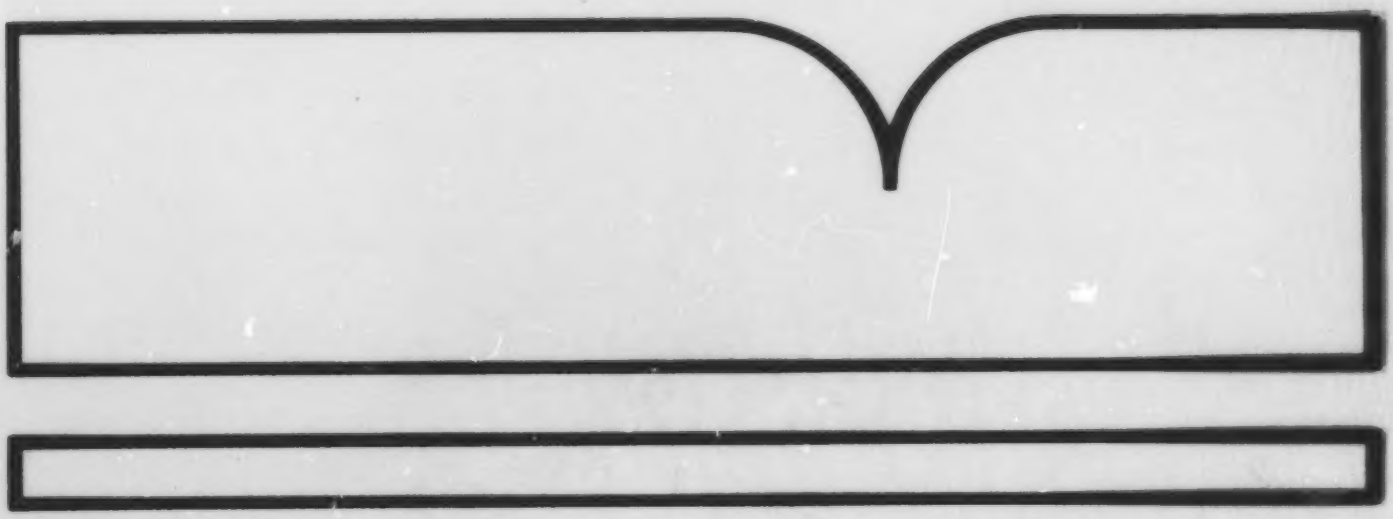
PB86-176476

Guidance for the Reregistration of Pesticide Products Containing Fluchloralin as the Active Ingredient

(U.S.) Environmental Protection Agency
Washington, DC

Jun 85



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This document contains information regarding the reregistration of pesticide products containing the subject active ingredient. The document includes how to register under a registration standard, regulatory position and rationale, and summaries of data requirements and data gaps. Also included is a bibliography containing citations of all studies reviewed by EPA in arriving at the positions and conclusions contained in the standard.

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GUIDANCE FOR THE REREGISTRATION OF MANUFACTURING-USE AND CERTAIN END-USE PESTICIDE PRODUCTS

CONTAINING

FLUCHLORALIN
(108701)

CASE NUMBER 189

CAS 33245-39-5

ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF PESTICIDE PROGRAMS

WASHINGTON, D. C. 20460

June 1985

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INTRODUCTION

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA sec. 3(g)) directs EPA to reregister all pesticides as expeditiously as possible.

To carry out this task, EPA has established the Registration Standards program, which will review all pesticide products containing active ingredients first registered before January 1, 1977. Pesticides will be reviewed in use clusters which have been ranked to give earliest review to pesticides used on food and feed crops.

The Registration Standards program involves a thorough review of the scientific data base underlying pesticide registrations and an identification of essential but missing studies which may not have been required when the product was initially registered or studies that are now considered insufficient. EPA's reassessment results in the development of a regulatory position, contained in a Registration Standard, on each pesticide and its uses. The Agency may require the registrant to modify product labels to provide additional precautionary statements, restrict the use of the pesticide to certified applicators, provide reentry intervals, modify uses or formulation types, specify certain packaging limitations, or other requirements to assure that proper use of the pesticide will not result in adverse effects on the environment.

The scientific review, which is not contained in this Guidance Package but is available upon request, concentrates on the technical grade of the active ingredient and identifies missing generic data. However, during the review of these data we are also looking for potential hazards that may be associated with the end use (formulated) products that contain the active ingredient. If we have serious concerns, we will address end use products as part of the Registration Standards program and will propose regulatory actions to the extent necessary to protect the public.

EPA has the authority under FIFRA sec. 3(c)(2)(B) to require registrants to submit data that will answer our questions regarding the hazard that may result from the intended use of a pesticide. Although sec. 3(c)(2)(B) provides that all registrants are responsible for these data, the Agency generally imposes generic data requirements only on the registrants of the manufacturing use products (basic suppliers

of the active ingredient) and other producers who do not qualify for the formulator's exemption.*

A producer who wishes to qualify for the formulator's exemption may change his source of supply to a registered source, provided the source does not share ownership in common with the registrant's firm. A registrant may do so by submitting a new Confidential Statement of Formula, EPA Form 8570-4, identifying the registered source of the active ingredient, to the appropriate Product Manager within 90 days of receipt of this Guidance Document. The chart on the following page shows what is generally required of those who do and do not qualify for the formulator's exemption in the Registration Standards program.

If you decide to request the Agency to cancel the registration of any of your products subject to the requirements of this Guidance Document, please notify the Product Manager named in the cover letter, within 90 days from the receipt of this document. If you decide to maintain your product registration(s), you must provide the information described in the following pages within the timeframes outlined. EPA will issue a notice of intent to cancel or suspend the registration of any currently registered product which does not comply with the requirements set forth in this Guidance Document.

You are reminded that FIFRA sec. 6(a)(2) requires you to submit factual information raising concerns of possible unreasonable adverse effects of a pesticide. You should notify the Agency of interim results of studies in progress if those results show possible adverse effects.

*The formulator's exemption applies to a registrant of an product if the source of his active ingredient(s): (1) is a registered product and (2) is purchased from a source which does not have ownership in common with the registrant's firm.

PRODUCTS SUBJECT TO THE REGISTRATION STANDARDS PROGRAM	ACTION(S) REQUIRED TO MAINTAIN REGISTRATION
I. Products That Do Not Qualify For The Formulator's Exemption	
A. Single Active Ingredient Products*	These products must be reregistered. To obtain reregistration, labeling, packaging and data requirements must be satisfied in accordance with the Registration Standards Guidance Document.
B. Multiple Active Ingredient Products	These products will not be reregistered at this time. However, generic data required to continue the registration of the active ingredient under review, as described in the Registration Standards Guidance Document, will be required and some labeling precautions may also be required.
II. Products That Do Qualify For The Formulator's Exemption	Only when additional restrictions or labeling are needed to protect man or the environment will these products be subject to the Registration Standard requirements. Affected products will be dealt with in a variety of ways, including but not limited to the Label Improvement Program and special intent to cancel notices.

* End use products of registrants who also produce a manufacturing use product will not be required to be reregistered provided that registrant fulfills the requirements specified in the Guidance Document for manufacturing use product(s). Such end use products will be subject to the labeling changes required for products in "II" above. If there are no manufacturing use products registered by any company end use products will be required to be reregistered.

NOTE: If all registrants in "I" above fail to meet the requirements in I-A and B above, then the registrants in "II" lose their right to qualify for the formulator's exemption and become subject to the requirements in I-A and B.

I. Regulatory Position and Rationale

A. Introduction

This Chapter describes the regulatory position and rationale for all manufacturing-use products (MPs) containing the herbicide fluchloralin as the sole active ingredient. The Agency bases its position and rationale on an evaluation of all such products and section 3, 24(c) and intrastate uses registered for fluchloralin. End-use products are reviewed only when there are no MPs registered or a label is changed significantly; mixtures are included only when there is a significant label change. After briefly describing the chemical and its uses, this chapter presents the regulatory position and rationale, the criteria for registration, acceptable ranges and limits, labeling considerations and tolerance reassessment.

B. Use Profile

Fluchloralin is a selective herbicide registered for use in controlling grassy and broadleaf weeds in dry and succulent peas and beans (lima, navy, kidney, lentils, field, green, pinto, Great Northern, edible soybeans, field peas, blackeyed peas, cowpeas, and garden peas), cotton, okra, peanuts, soybeans, and sunflowers. The most common use is on soybeans, which represents approximately 85 percent of the total annual domestic usage. Cotton accounts for most of the rest of the usage. The only technical fluchloralin product is a 55 percent liquid concentrate. The only fluchloralin formulation currently on the market is a 4 lbs ai per gallon emulsifiable concentrate. There are no registered multiple active fluchloralin products to date, but two tank mixes (with metribuzin and EPTC) are registered. There are currently no intrastate registrations or Section 18 registrations, but there is one 24(c) action which allows the aerial use of Basalin® on cotton in Arizona.

Fluchloralin is applied in a broadcast manner or a banded spray, using ground equipment, a few days prior to, or on the day of planting. Aerial application is not permitted on the federally registered Basalin® label. The herbicide is usually incorporated into the soil immediately after application. Only one application is allowed per year.

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C. Background and Description of the Chemical

Fluchloralin is the common name for the herbicide [N-(2-chloroethyl)-2,6-dinitro-N-propyl-4-(trifluoromethyl)aniline], which is registered under the trade name Basalin®. The Chemical Abstracts Service (CAS) number is 33245-39-5 and the EPA chemical code number (also known as the Shaughnessy number) is 108701. The EPA registration number is 7969-46. Fluchloralin was first registered in 1970 by the B.A.S.F. Wyandotte Corporation, which is currently the sole manufacturer and formulator.

Technical fluchloralin is an orange-yellow crystalline solid with a faint, unusual odor and a melting point of 42-43°C. At 20°C, fluchloralin is highly soluble (>100 g/100 g) in ethyl acetate, benzene, ether, acetone, and chloroform, and moderately soluble in cyclohexane (25.1 g/100 g) and ethanol (17.7 g/100 g). The solubility of fluchloralin in water is low (<7 mg/100 g). The vapor pressure of fluchloralin is 6×10^{-6} mm Hg at 20°C, 2.5×10^{-5} mm Hg at 30°C. The empirical formula is $C_{12}H_{13}ClF_3N_3O_4$, the molecular weight 355.7. Fluchloralin is sensitive to ultraviolet light, but stable in aqueous solutions over a range of pH from 5 to 9.

D. Regulatory Position and Rationale

Based on a review and evaluation of all available data and other relevant information on fluchloralin, the Agency has made the following determinations:

1. Manufacturing-use pesticide products containing fluchloralin as the sole active ingredient may be registered for sale, distribution, and use, subject to the terms and conditions specified in this Standard. Registrants must provide or agree to develop and provide additional data, as specified in Tables A and B, in order to maintain existing registrations or to permit new fluchloralin registrations.

Rationale: Under the FIFRA, the Agency cannot cancel or withhold registration simply because data are missing or inadequate (see sections 3(c)(2)(B) and 3(c)(7) of the FIFRA). Rather, issuance of this Standard provides a mechanism for indentifying data needs. These data will be reviewed and evaluated when they are received and the Agency will determine at that time if they will affect the registrations of fluchloralin.

2 The Agency will hold such special data requirements as groundwater monitoring in reserve pending receipt and analysis of the animal metabolism studies and leaching studies required under the Standard.

Rationale: Although the parent compound does not leach through soil, a degradate of fluchloralin (2,6-dinitro-4-trifluoromethylphenol - BAS-392-D-4) is highly mobile in Limburgerhof loamy sand soil and mobile in Bruchfeld sandy clay loam soil. By itself, this mobility is insufficient to give rise to special data requirments, but if leaching studies indicate potential for exposure, and the animal metabolism studeis indicate that the degradate may be of toxicological concern, then further data requirements may be imposed.

3. Tolerances for significant new food uses will not be granted until the requested toxicological data have been received and reviewed.

Rationale: There is cause for concern because there is an almost complete lack of valid toxicological data, and fluchloralin is structurally similar to trifluralin. The Agency has received data which indicate trifluralin causes cancer in animals. Therefore, registration of significant new food uses could cause oncogenic or other hazards which cannot be evaluated without the requested toxicological data.

4. Pending the submission and review of rotational crop data, registrants will be required to place a statement on the labels of fluchloralin end-use products, prohibiting planting of crops (other than those for which fluchloralin is registered) for a 12-month period after the last use.

Rationale: Until more is known about the plant metabolism and environmental fate of fluchloralin, the Agency cannot determine whether crops planted in fluchloralin-treated fields will contain fluchloralin residues. If there are such residues, they could add to the overall dietary exposure.

5. The required Product Chemistry data on contaminants will be reviewed closely to determine the presence and extent of nitrosamine contamination. If contamination exists, and is of a type and at a level high enough to be of toxicological concern, then other data may be required, as appropriate.

Rationale: Close review of contamination data is appropriate because nitrosamine contamination is known to occur in the technical compound. At present there is no evidence of contamination at levels of concern, and therefore no other regulatory action is called for at this time.

6 The Agency has identified a concern for endangered species from use of fluchloralin on soybeans. This concern is supported by a jeopardy opinion from the U.S. Fish and Wildlife Service. Protection of endangered species will require a modification of the existing end-use product labels. Specific label language and methods for protecting endangered species are currently being completed, and the Agency will implement some form of label restriction prior to the 1986 growing season.

Rationale: Appropriate labeling for the protection of species determined to be in jeopardy is being developed in conjunction with a generic (cluster) approach, rather than under this Standard. This generic approach, which entails the analysis of the effects of all pesticides on endangered species on a crop by crop basis, rather than a chemical by chemical approach, is being developed in cooperation with Federal and State enforcement agencies, the Office of Endangered Species (OES), the U.S. Department of Agriculture (USDA), the National Agricultural Chemical Association (NACA) and both the state and county extension services. Thus, the labeling developed under this approach will encompass all endangered species associated with use of pesticides on that particular crop.

7. No additional label requirements pertaining to toxicity or hazard to humans (i.e. protective clothing, precautionary statements, etc.) will be imposed until the toxicological data have been submitted and reviewed. Statements currently on the label will be maintained. As noted in Section G, registrants will be required to place certain statements pertaining to toxicity to fish on labels.

Rationale: There are virtually no valid toxicological data for fluchloralin, and hence no indication of potential hazards to humans. Without an indication of what hazards would be mitigated, it would be inappropriate to require new precautions to be added to product labels. The current label statements will be presumed appropriate, in the absence of data to the contrary. Valid data on the toxicity of fluchloralin to fish are available, and indicate the necessity of an additional statement.

E. Criteria for Registration Under This Standard

To be covered by this Standard, products must:

- be a manufacturing use product containing fluchloralin as the sole active ingredient,

- bear required labeling and conform to the product composition, acute toxicity limits, and use pattern requirements listed in Section F of this document.

The applicant for registration or reregistration of products subject to this Standard must comply with all terms and conditions described in it. This includes making a commitment to fill data gaps on a schedule specified by the Agency. Applicants for registration under this Standard must follow the instructions contained in this guidance package and complete and submit the appropriate forms within the time specified.

. Acceptable Ranges and Limits

1. Product Composition Standard

Technical grade products must contain at least 55 percent fluchloralin as the sole active ingredient. Each manufacturing-use product formulation proposed for registration must be fully described with an appropriate certification of limits. In addition, the active ingredient found in the manufacturing-use fluchloralin products must be substantially similar to that in currently registered technical products. Any manufacturing-use product not meeting these requirements will be considered a new product and will not be registered under this standard.

2. Acute Toxicity Limits

The Agency will consider registration of technical grade, manufacturing-use products, and end-use products containing fluchloralin when the product is supported by acute toxicity data and the labeling of the product bears the appropriate precautionary statements.

3. Use Patterns

To be registered under this Standard, manufacturing-use products containing fluchloralin must be labeled for formulation into end-use products that are to be used only for the control of grassy and/or broadleaf weeds in beans or peas (kidney, lima, navy, lentils, field, green, pinto, Great Northern, edible soybeans, blackeyed peas, cowpeas, field peas and garden peas), cotton, okra, peanuts, soybeans, or sunflowers.

. Required Labeling

All technical grade and manufacturing-use products containing

.luchloralin must bear appropriate labeling as specified in 40 CFR 162.10. Other portions of the guidance package contain specific information regarding label requirements. In addition, the following specific labeling requirements apply to technical and manufacturing-use products:

- Use Pattern Statements

"For formulation into end-use herbicide products intended only for use on kidney, lima, navy, green, pinto, Great Northern or edible soy beans, blackeyed, cow, field or garden peas, cotton, okra, peanuts, or sunflowers."

- Precautionary Statements

Environmental Hazard Statement

"This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in a NPDES permit. Do not discharge effluent containing this product to sewer systems without notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA."

ne following specific labeling requirements apply to the end-use products:

"This pesticide is toxic to fish. Do not apply directly to water. Drift and/or runoff from treated areas may be hazardous to fish in adjacent aquatic sites. Do not contaminate water by cleaning of equipment or disposal of wastes."

"Do not plant food and feed crops in fluchloralin-treated fields for a period of at least 12 months after the last application of fluchloralin, unless fluchloralin is authorized for use on those crops."

The labels of all products must bear the appropriate container disposal statement. See Appendix IV-5 of this guidance package.

The required statements listed in this Standard must appear on the labels of all MPs and EPs released for shipment after July 1, 1986. The labels of all MPs and EPs currently in the channels of trade must be modified to include all the listed statements by July 1, 1987. After review of data to be submitted under this Standard, the Agency may impose additional label requirements.

Tolerance Reassessment

Fluchloralin is currently registered for use on cottonseed, soybeans, seed and pod vegetables, sunflowers, and peanuts. The PADI is 0.0026 mg/kg/day, based on a 90-day feeding study (dogs) NOEL of 5.250 mg/kg/day (210 ppm), LEL = 15.75 mg/kg/day (hemisiderosis in the liver) and using a safety factor of 2000. The portion of the PADI currently occupied is 2.44, or <3%.

The feeding study on which the PADI was based has been declared invalid. Therefore, the currently established PADI for fluchloralin is not supported by the toxicology data base. However, the portion of the PADI occupied is <3%.

II. REQUIREMENT FOR SUBMISSION OF GENERIC DATA

A. This portion of the guidance document is a Notice issued under the authority of FIFRA sec. 3(c)(2)(B). The tables following this section list the data required for maintaining the registrability of each product.

EPA has determined that additional generic data described in Table A must be submitted to EPA for evaluation in order to maintain in effect the registration(s) of your product(s) identified as an attachment to the cover letter accompanying this guidance document. As required by FIFRA sec. 3(c)(2)(B), you are required to take appropriate steps to comply with this Notice.

EPA may suspend the registration of each of those products unless, within the specified time, you have informed EPA how you will satisfy the requirements of this Notice. Any such suspension will remain in effect until you have complied with the terms of this Notice.

B. What Generic Data[1/] Must be Submitted. You may determine which generic data you must submit by consulting Table A at the end of this chapter. That table lists the generic data needed to evaluate the continued registrability of all products, and the dates by which the data must be submitted. The required studies must be conducted in accordance with EPA approved protocols (such as those contained in the Pesticide Assessment Guidelines [2/] or data collected under the approved protocols of the Organization for Economic Cooperation and Development (OECD). If you do not wish to develop data in support of certain uses appearing in your labeling, you may delete those uses at the time you submit your revised labeling.

For certain kinds of testing (generally ecological effects), EPA requires the test substance to be a "typical formulation," and in those cases EPA needs data of that type

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1/ Generic data pertain to the properties or effects of a particular ingredient, and thus are relevant to an evaluation of the risks of all products containing that ingredient, regardless of the product's unique composition or specific use. Product-specific data relate only to the properties or effects of a product with a particular composition (or a group of products with closely similar composition).

2/ The Pesticide Assessment Guidelines are available in hard copy or microfiche from the National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22161.

for each major formulation category (e.g., emulsifiable concentrates, wettable powders, granulars, etc.) These are classified as generic data and when needed are specified in Table A. EPA may possess data on certain "typical formulations" but not others. Note: "Typical formulation" data should not be confused with product-specific data (Table B) which are required on each formulation. Product-specific data are further explained in Chapter III of this document.

C. Options Available for Complying With Requirements to Submit Data

Within 90 days of your receipt of this Notice you must submit to EPA a completed copy of the form entitled "FIFRA Section 3(c)(2)(B) Summary Sheet" [EPA Form 8580-1, Appendix II-3] for each of your products. On that form you must state which of the following methods you will use to comply with the requirements of this Notice:

1. (a) Notify EPA that you will submit the data, and

(b) either submit the existing data you believe will satisfy the requirement, or state that you will generate the data by conducting testing. If the test procedures you will use deviate from (or are not specified in) the Pesticide Assessment Guidelines or protocols contained in the Reports of Expert Groups to the Chemicals Group, Organization for Economic Cooperation and Development (OECD) Chemicals Testing Programme, you must enclose the protocols you will use.

OR

2. Notify EPA that you have entered into an agreement with one or more other registrants to jointly develop (or share in the cost of developing) the data. If you elect this option, you must notify EPA which registrant(s) are parties to the agreement.

OR

3. File with EPA a completed "Certification of Attempt to Enter Into an Agreement With Other Registrants for Development of Data" (EPA Form 8580-6, Appendix II-4)*/

*/ FIFRA sec. 3(c)(2)(B) authorizes joint development of data by two or more registrants, and provides a mechanism by which parties can obtain an arbitrator's decision if they agree to jointly develop data but fail to agree on all the terms of the agreement. The statute does not compel any registrant to agree to develop data jointly.

(Footnote continued on next page)

OR

4. Request that EPA amend your registration by deleting the uses for which the data are needed. (This option is not available to applicants for new products.)

OR

5. Request voluntary cancellation of the registration(s) of your products for which the data are needed. (This option is not available to applicants for new products.)

D. Procedures for Requesting Changes in Testing Methodology and Extensions of Time

EPA recognizes that you may disagree with our conclusions regarding the appropriate ways to develop the required data or how quickly the data must be submitted. If the test procedures you plan to use deviate from (or are not specified in) the registration guidelines or protocols contained in the reports of the Expert Groups to the Chemical Groups, Organization for Economic Cooperation and Development (OECD) Chemicals Testing Programme, you must submit the protocol for Agency review prior to the initiation of the test.

If you think that you will need more time to generate the required data than is allowed by EPA's schedule, you may submit a request for an extension of time. The extension request must be submitted in writing to the Product Manager.

(Footnote continued from previous page)

In EPA's opinion, joint data development by all registrants subject to a data requirement or a cost-sharing agreement among all such registrants is clearly in the public interest. Duplication of testing could increase costs, tie up testing facilities, and subject an unnecessarily large number of animals to testing.

As noted earlier, EPA has discretion to suspend the registration of a product when a registrant fails to submit data required under FIFRA Section 3(c)(2)(B). EPA has concluded that it should encourage joint testing rather than duplicative testing, and that suspension should be withheld in certain cases. to further this goal. Accordingly, if (1) a registrant has informed us of his intent to develop and submit data required by this Notice; and (2) a second registrant informs EPA that it has made a bona fide offer to the first registrant to share in the expenses of the testing [on terms to be agreed upon or determined by arbitration under FIFRA Section 3(c)(2)(B)(iii)]; and (3) the first registrant has declined to agree to enter into a cost-sharing agreement, EPA will not suspend the second firm's registration.

The extension request should state the reasons why you believe that an extension is appropriate. While EPA considers your request, you must strive to meet the deadline for submitting the required data.

LE A

GENERIC DATA REQUIREMENTS FOR FL...LORALIN (97% UNREGISTERED TECHNICAL) 1/

Guideline Citation and Name of Test	Test Substance	Guidelines Status	Are Data Required Yes	Are Data Required No	Footnote Number	Data Must Be Submitted Within Time Frames Listed Below 2/
§158.120 Product Chemistry						
Product Identity:						
61-2 - Description of Beginning Materials and Manufacturing Process	TGAI	R	[X]	[ ]	_____	6 Months
61-3 - Discussion of Formation of Impurities	TGAI	R	[X]	[ ]	_____	6 Months
Analysis and Certification of Product Ingredients						
62-1 - Preliminary Analysis	TGAI	CR	[X]	[ ]	_____	12 Months
Physical and Chemical Characteristics						
63-2 - Color	TGAI	R	[ ]	[X]	_____	
63-3 - Physical State	TGAI	R	[ ]	[X]	_____	
63-4 - Odor	TGAI	R	[ ]	[X]	_____	
63-5 - Melting Point	TGAI	R	[ ]	[X]	_____	
63-6 - Boiling Point	TGAI 3/	R	[ ]	[X]	_____	

TABLE A

GENERIC DATA REQUIREMENTS FOR FLU ALIN (97% UNREGISTERED TECHNICAL) 1/

Guideline Citation and Name of Test	Test Substance	Guidelines Status	Are Data Required Yes	Are Data Required No	Footnote Number	Data must Be Submitted Within Time Frames Listed Below 2/
§158.120 Product Chemistry (Continued)						
Physical and Chemical Characteristics (Continued)						
63-7 - Density, Bulk Density, or Specific Gravity	TGAI	R	[X]	[ ]		6 Months
63-8 - Solubility	TGAI or PAI	R	[ ]	[X]		
63-9 - Vapor Pressure	PAI	R	[ ]	[X]		
63-10 - Dissociation constant	PAI	R	[X]	[ ]		6 Months
63-11 - Octanol/water partition coefficient	PAI	R	[X]	[ ]		6 Months
63-12 - pH	TGAI	R	[X]	[ ]		6 Months
63-13 - Stability	TGAI	R	[X]	[ ]		6 Months
Other Requirements:						
64- 1 - Submittal of samples	TGAI, PAI	CR	[ ]	[X]		

TGAI = Technical Grade of the Active Ingredient; PAI = Pure Active Ingredient; R = Required; CR = Conditionally Required

1/ The 97% technical is not a registered manufacturing-use product.

2/ Data must be submitted within the indicated time frame, based on the date of the Guidance Document.

- 6 Month Due Date is January 1, 1986.
- 12 Month Due Date is July 1, 1986 .

3/ Data are not required because the 97% technical is a solid at room temperature.

TABLE A
GENERIC DATA REQUIREMENTS FOR FLUCHLORALIN

Data Requirements	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No, or Partially)	Bibliographic Citation		Must Additional Data be Submitted Under FIFRA § 3(c)(2)(b)? Time Frames for Data Submission[2]	
§158.125 Residue Chemistry						
171-4 - Nature of Residue (Metabolism)						
- Plants	PAIRA	Partially	00052467 00106529 00106530 GS0189001	00106531 00106532 00106540	Yes[3]	24 Months
- Livestock	PAIRA and Plant Metabolites	Yes	00052469 00052470	GS0189001	No	
171-4 - Residue Analytical Method						
- Plant residues	TGAI and Metabolites	Yes	00036657 00036665 00036673 00047773 00047905 00047907 00055010 00055011 00055012	00085056 00085058 00106501 00106534 00106540 00106543 GS0189002 GS0189003 GS0189004	No[4]	
- Animal Residues	TGAI and Metabolites	No	-		No[5]	

TABLE A

GENERIC DATA REQUIREMENTS FOR FLUCHLORALIN

Data Requirements	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No, or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(b)? Time Frames for Data Submission[2]
§158.125 Residue Chemistry (continued)				
171-4 - Storage Stability Data	PAI	Yes	00055013 00106534	No[6]
171-4 - Magnitude of the Residue - Residue Studies for Each Food Use				
- Crop Group #1 - (Legume Vegetables Group)				
o Crop 1 (Dry Beans)				
-- Crop field trials	TEP	Yes	00085055 00085056	No[7]
o Crop 2 (Lentils)				
-- Crop field trials	TEP	Yes	00085055 00085056	No[7]
o Crop 3 (Lima Beans)				
-- Crop field trials	TEP	Yes	00085055 00085056	No[7]
o Crop 4 (Peas - dried and succulent)				
-- Crop field trials	TEP	Yes	00085055 00085056	No[7]

TABLE A
GENERIC DATA REQU' NTS FOR FLUCHLORALIN

Data Requirement	Composition[1/]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(b)? Time Frames for Data Submission[2/]
§158.125 Residue Chemistry (continued)				
171-4 - Magnitude of the Residue- Residue Studies (continued)				
- Crop Group 1 (Legume Vegetable Group)(continued)				
o Crop 5 (Snap Beans)				
-- Crop field trials	TEP	Yes	00085055 00085056	No[7/]
o Crop 6 (Soybeans)				
-- Crop field trials	TEP	Yes	00047773 00104436 00106534	No
- Crop Group 2 (Foliage of Legume Vegetables Group)				
o Crop 1 (Bean vines and hay)				
-- Crop field trials	TEP	Yes	00085055 00085056	No
o Crop 2 (Lentil forage and hay)				
-- Crop field trials	TEP	Yes	00085055 00085056	No

TABLE A
GENERIC DATA REQU[illegible]NTS FOR FLUCHLORALIN

Data Requirement	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(b)? Time Frames for Data Submission[2]
§158.125 Residue Chemistry (continued)				
171-4 - Magnitude of the Residue- Residue Studies (continued)				
- Crop Group 2 (Foliage of Legume Vegetables Group)(continued)				
o Crop 3 (Pea vines and straw)				
-- Crop field trials	TEP	Yes	00085055	No[8]
- Crop Group 3 (Herbs and Spices)				
-- Dill - crop field trials	TEP	No	-	Yes[9] 15 Months
Miscellaneous Commodities				
-- Cottonseed - crop field trials	TEP	Yes	00036657 00106534 00106540	No
-- Okra - crop field trials	TEP	No	-	Yes[10] 15 Months
-- Peanuts - crop field trilas	TEP	Yes	00106501 00106543	No
-- Sunflower seeds - crop field trials	TEP	Yes	00085057 00085058	No
-- Meat/milk/poultry/eggs	TGAI or plant metabolites	N/A	-	No[11]

1/ Composition: TGAI = Technical grade of the active ingredient; PAIRA = Pure active ingredient, radiolabelled; TEP = Typical end-use product; EP = End-use product.

2/ Data must be submitted within the indicated time frame, based on the date of the Guidance Document.
- 15 month due date is October 1, 1986.
- 24 month due date is July 1, 1987.

3/ Data are required to reflect the distribution and metabolism of ring-labeled ^{14}C-fluchloralin in mature soybeans (beans) and mature cottonseed from plants grown in soil treated at 2 lb ai/A. Exaggerated rates may be required to obtain sufficient residues for identification.

4/ If the data requested under §158.125 - 171-4 (Nature of Residue in Plants) indicate additional metabolites of toxicological concern, the submission of additional validated methods for data collection and tolerance enforcement will be required.

5/ Data are not required because metabolism data shows that residue levels of fluchoralin in animal tissue resulting from registered uses would be below the detection limit for determining fluchoralin residues.

6/ If the data requested under §158.125 - 171-4 (Nature of Residue in Plants) indicate additional metabolites of toxicological concern, the submission of additional data depicting the storage stability of these metabolites will be required.

7/ Establishment of this crop group tolerance is dependent upon the establishment of a crop group tolerance for foliage of legume vegetables, because one cannot be established without the other. To establish a crop group tolerance for foliage of legume vegetables, the registrants must submit residue data from pea straw and the forage, hay, and straw of soybeans.

8/ To establish a crop group tolerance for the foliage of legume vegetables group, the registrant must submit residue data from pea straw and the forage, hay, and straw of soybeans. Since feeding restrictions presently exist for the foliage of soybeans, the registrant may elect to propose a crop group tolerance for the foliage of legume vegetables except soybeans and submit only the required data for pea straw.

9/ If a registrant wishes to register a use for fluchloralin on dill, residue data for the justification of an appropriate tolerance for residues of fluchloralin on dill must be submitted.

10/ If the petitioner wishes to retain the registered pre-plant-incorporation use for okra, a tolerance for residues in or on okra must be proposed, for which residue data from mature okra harvested from plants grown in coarse soil pre-plant treated at 1.0 lb ai/A, medium soil treated at 1.25 lb ai/A, and fine soil treated at 1.5 lb ai/A will be required. These studies should be conducted in Texas and Georgia, because these states represent 25 and 20%, respectively, of the total U.S. commercial okra production area.

11/ The available data support a Category 3 [see 40 CFR 180.6(a)] classification for residues of fluchloralin in meat, milk, poultry, and eggs. No tolerances are required, because the available data indicate that ingestion of feed items bearing up to 10X the maximum permissible residues of fluchloralin should not produce finite residues in

TABLE A

GENERIC DATA REQUIREMENTS FOR FLUCHLORALIN

Data Requirement	Composition[1]	Use Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA §3(c)(2)(B)? Time Frames for Data Submission[3]
§158.130 Environmental Fate					
DEGRADATION STUDIES-LAB:					
161-1 - Hydrolysis	TGAI or PAIRA	A,B	No	-	Yes 9 Months
Photodegradation					
161-2 - In water	TGAI or PAIRA	A,B	Yes	00106520	No
161-3 - On soil	TGAI or PAIRA	A,B	No	-	Yes 9 Months
161-4 - In Air	TGAI or PAIRA	A,B	No	-	No[4]
METABOLISM STUDIES-LAB:					
162-1 - Aerobic Soil	TGAI or PAIRA	A,B	Yes	00052468 00106538	No
162-2 - Anaerobic Soil	TGAI or PAIRA	A,B	No	-	Yes 27 Months
162-3 - Anaerobic Aquatic	TGAI or PAIRA	A,B	No	-	No[5]
162-4 - Aerobic Aquatic	TGAI or PAIRA	A,B	No	-	No[5]

TABLE A
GENERIC DATA REQUI VTS FOR FLUCHLORALIN

Data Requirement	Composition[1]	Use Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)?	Time Frames for Submitting Data[3]
§158.130 Environmental Fate (continued)						
MOBILITY STUDIES:						
163-1 - Leaching and Adsorption/Desorption	TGAI or PAIRA	A,B	No	-	Yes	12 Months
163-2 - Volatility (Lab)	TEP	A,B	No	-	No[6]	
163-3 - Volatility (Field)	TEP	A,B	No	-	No[6]	
DISSIPATION STUDIES-FIELD:						
164-1 - Soil	TEP	A,B	No	-	Yes	27 Months
164-2 - Aquatic (Sediment)	TEP	A,B	No	-	No[5]	
164-3 - Forestry	TEP	A,B	No	-	No[5]	
164-4 - Combination and Tank Mixes		A,B	No	-	No	
164-5 - Soil, Long-term	TEP	A,B	No	-	No[7]	50 Months

T[illegible]E A
GENERIC DATA RE[illegible]MENTS FOR FLUCHLORALIN

Data Requirement	Composition[1]	Use Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Time Frames for Submitting Data[3]	
§158.130 Environmental Fate						
ACCUMULATION STUDIES:						
165-1 - Rotational Crops (Confined)	PAIRA	A,B	No	-	Yes	39 Months
165-2 - Rotational Crops (Field)	TEP	A,B	No	-	Yes	50 Months
165-3 - Irrigated Crops	TEP	A,B	No	-	No[5]	
165-4 - In Fish	TGAI or PAIRA	A,B	No	-	Yes	12 Months
165-5 - In Aquatic Non-Target Organisms	TEP	A,B	No	-	No[5]	
§158.140 Reentry Protection	TEP	A,B	No	-	No[8]	

GENERIC DATA REQUIREMENTS FOR FLUCHLORALIN

§158. Environmental Fate
(continued)

1/ Composition: TGAI = Technical grade of the active ingredient; PAIRA = Pure active ingredient, radiolabelled; TEP = Typical end-use product.

2/ The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor

3/ Data must be submitted within the indicated time-frame, based on the date of the Guidance Document.
- 9 Month Due Date is March 1, 1986.
- 12 Month Due Date is July 1, 1986.
- 27 Month Due Date is October 1, 1987.
- 39 Month Due Date is October 1, 1988 .
- 50 Month Due Date is September 1, 1989.

4/ No data are required because vapor pressure data indicate that the terrestrial uses are unlikely to have air impacts.

5/ No data are required because there are no aquatic uses, forestry uses, or uses likely to have aquatic impacts.

6/ No data are required because the use pattern, vapor pressure, and toxicity data indicate minimal hazard through inhalation.

7/ Data are not required because the valid aerobic soil metabolism studies demonstrate that >50% of the residues dissipate prior to recommended subsequent application.

8/ The practice of soil incorporation is expected to minimize exposure during reentry operations.

TABLE A
GENERIC DATA REQUIREMENTS FOR FLUCHLORALIN

Data Requirement	Composition[1]	Use Patterns[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA §3(c)(2)(B)? Time Frames for Submitting Data[3]
§158.135 Toxicology					
ACUTE TESTING:					
81-1 - Oral	TGAI	A,B	No	-	Yes 9 Months
81-2 - Dermal	TGAI	A,B	No	-	Yes 9 Months
81-3 - Inhalation - Rat	TGAI	A,B	No	-	Yes 9 Months
81-4 - Primary Eye Irritation - Rabbit	TGAI	A,B	No	-	Yes 9 Months
81-5 - Primary Dermal Irritation	TGAI	A,B	No	-	Yes 9 Months
81-6 - Dermal Sensitization	TGAI	A,B	No	-	Yes 9 Months
81-7 - Acute Delayed Neurotoxicity - Hen	TGAI	A,B	No	-	No[4]
SUBCHRONIC TESTING:					
82-1 - 90-Day Feeding - Rodent,	TGAI	A,B	No	-	No[5]
Non-rodent	TGAI	A,B	No	-	No[5]
82-2 - 21-Day Dermal	TGAI	A,B	No	-	Yes 12 Months
82-3 - 90-Day Dermal	TGAI	A,B	No	-	No[6]

TABLE A
GENERIC DATA REQUIREMENTS FOR FLUCHLORALIN

Data Requirement	Composition[1]	Use Patterns[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA §3(c)(2)(B)?	Time Frames for Submitting Data[3]
§158.135 Toxicology						
82-4 - 90-Day Inhalation: - Rat	TGAI	A,B	N/A	--	No[6]	
82-5 - 90-Day Neurotoxicity: - Hen	TGAI	A,B	N/A	--	No[7]	
-Mammal						
§158.135 Toxicology - Continued						
CHRONIC TESTING:						
83-1 - Chronic Toxicity - 2 species:	TGAI	A,B				
- Rodent, and			No	--	Yes	50 Months
- Non-rodent (Dog)			No	--	Yes	50 Months
83-2 - Oncogenicity - 2 species:	TGAI	A,B				
- Rat (preferred), and			No	--	Yes	50 Months
- Mouse (preferred)			No	--	Yes	50 Months
83-3 - Teratogenicity - 2 species:	TGAI	A,B				
- Rat			No	--	Yes	15 Months
- Rabbit			No	--	Yes	15 Months
83-4 - Reproduction - Rat 2-generation	TGAI	A,B	No	--	Yes	39 Months

TABLE A
GENERIC DATA REQU ENTS FOR FLUCHLORALIN

Data Requirement	Composition 1/	Use Pattern 2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)?	Time Frame for Data Submission 3/
§158.135 Toxicology - Continued						
MUTAGENICITY TESTING						
84-2 - Gene Mutation (Ames Test)	TGAI	A,B	No	--	Yes	9 Months
84-2 - Structural Chromosomal Aberration	TGAI	A,B	No	--	Yes	12 Months
84-4 - Other Genotoxic Effects	TGAI	A,B	No	--	Yes	12 Months
SPECIAL TESTING						
85-1 General Metabolism	TGAI	A,B	No	--	Yes	24 Months

TABLE A
GENERIC DATA REQU' NTS FOR FLUCHLORALIN

§ 158.135 Toxicology - Continued

1/ Composition: TGAI = Technical Grade Active Ingredient; PAI = Pure Active Ingredient; PAIRA = Pure Active Ingredient, Radiolabeled

2/ The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor.

3/ Data must be submitted within the indicated time frame, based on the date of the Guidance Document.
- 9 Month Due Date is March 1, 1986.
- 12 Month Due Date is July 1, 1986.
- 15 Month Due Date is October 1, 1986.
- 24 Month Due Date is July 1, 1987.
- 39 Month Due Date is October 1, 1988.
- 50 Month Due Date is September 1, 1989.

4/ Data are required only for organophosphates or their metabolites.

5/ No data are required because chronic toxicity data are being required.

6/ No data are required because use does not involve purposeful exposure to the skin.

7/ No data are required because use does not result in repeated inhalation.

8/ Data are required only for organophospphates or their metabolits that display delayed neurotoxicity in acute testing.

TABLE A
GENERIC DATA REQUIREMENTS FOR FLUCHLORALIN

Data Requirement	Composition 1/	Use Pattern 2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)?	Time Frame for Data Submission 3/
§158.145 Wildlife and Aquatic Organisms						
AVIAN AND MAMMALIAN TESTING						
71-1 - Acute Avian Oral Toxicity	TGAI	A,B	No	--	Yes	9 Months
71-2 - Avian Subacute Dietary Toxicity	TGAI	A,B				
- Upland Game Bird, and			No	--	Yes	9 Months
- Waterfowl			No	--	Yes	9 Months
71-3 - Wild Mammal Toxicity	TGAI	A,B	No	--	Reserved 4/	
71-4 - Avian Reproduction						
- Upland Game Bird, and	TGAI	A,B	Partially	00039449	No	
- Waterfowl	TGAI	A,B	Partially	00039450	No	
71-5 - Simulated Field Testing	TEP	A,B	No	--	Reserved 4,5/	
- Mammals, and						
- Birds						
AQUATIC ORGANISM TESTING						
72-1 - Freshwater Fish Toxicity						
- Coldwater Fish Species, and	TGAI	A,B	Yes	00039445	No	
- Warmwater Fish Species	TGAI	A,B	Yes	00039445	No	
72-2 - Acute Toxicity to Freshwater Invertebrates	TGAI	A,B	No	--	Yes	9 Months

TABLE A
GENERIC DATA REQUIREMENTS FOR FLUCHLORALIN

Data Requirement	Composition[1]	Use Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA §3(c)(2)(B)? Time Frame for Data Submission[3]
§158.145 Wildlife and Aquatic Organisms (continued)					
72-3 - Acute Toxicity to Estuarine and Marine Organisms					
a. Shrimp	TGAI	A,B	No	-	Yes[6] 12 Months
b. Marine Fish	TGAI	A,B	No	-	Yes[6] 12 Months
c. Oyster	TGAI	A,B	No	-	Yes[6] 12 Months
72-4 - Fish Early Life Stage and Aquatic Invertebrate Life-Cycle	TGAI	A,B	No	-	Reserved[4]
72-5 - Fish - Life-Cycle	TGAI	A,B	Partially	00106497[7]	Reserved[4]
72-6 - Aquatic Organism Accumulation	TGAI, PAI or Degradation Product	A,B	No	-	Reserved[4]
72-7 - Simulated or Actual Field Testing - Aquatic Organisms	TEP	A,B	No	-	Reserved[4]

TABLE A

GENERIC DATA REQUIREMENTS FOR FLUCHLORALIN

§158.145 Wildlife And Aquatic Organisms (continued)

1/ Composition: TGAI = Technical grade of the active ingredient; PAI = Pure active ingredient; TEP = Typical end-use product.

2/ The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor

3/ Data must be submitted within the indicated time frame, based on the date of the Guidance Document.
- 9 Month Due Date is March 1, 1986.
- 12 Month Due Date is July 1, 1986.

4/ Data may be required, depending on the nature of environmental data yet to be submitted.

5/ Data may be required, depending on the nature of toxicological data yet to be submitted.

6/ Fluchloralin has LC_{50} values below 1 ppm for fish. More than 300,000 acres each of cotton and soybeans are grown in coastal areas. Therefore, data are required.

TABLE A
GENERIC DATA REQUIREMENTS FOR FLUCHLORALIN

Data Requirement	Composition[1]	Use Pattern[2]	Does EPA Have Data To Satisty This Requirement? (Yes, No, or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.155 Nontarget Insect					
NONTARGET INSECT TESTING -					
Pollinators:					
141-1 - Honey bee acute contact toxicity	TGAI	A,B	Yes	00106498	No
141-2 - Honey bee - toxicity of residues on foliage	TEP	A,B	No	-	No[4]
141-3 - Wild bees important in alfalfa pollination-toxicity of residues on foliage	TEP	A,B	N/A	-	No[5]
141-4 - Honey bee subacute feeding study	[Reserved][6]				
141-5 - Field testing for pollinators	TEP	A,B	No	-	No[4]

TABLE A
GENERIC DATA REQUI' VTS FOR FLUCHLORALIN

Data Requirement	Composition[1]	Use Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.155 Nontarget Insect (continued)					
NONTARGET INSECT TESTING - AQUATIC INSECTS:					
142-1 - Acute toxicity to aquatic insects	[Reserved][7]				
142-2 - Aquatic insect life-cycle study	[Reserved][7]				
142-3 - Simulated or actual field testing for aquatic insects	[Reserved][7]				
143-1 thru 143-3 NONTARGET INSECT TESTING PREDATORS AND PARASITES	[Reserved][7]				

1/ Composition: TGAI = Technical grade of the active ingredient; TEP = Typical end-use product.
2/ The use pattern codes are as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor.
3/ Unless otherwise specified, data must be submitted no later than six months after issuance of this Standard.
4/ As data from the acute contact test indicate low toxicity to bees, no further testing is required.
5/ No data are required because fluchloralin is not registered for use on alfalfa.
6/ Reserved pending development of test methodology.
7/ Reserved pending Agency decision as to whether data requirements should be established.

III. REQUIREMENT FOR SUBMISSION OF PRODUCT-SPECIFIC DATA

Note: Unless stated otherwise in Section I, Regulatory Position and Rationale, this Section applies only to manufacturing use products, not to end use products.

A necessary first step in determining which statements must appear on your product's label is the completion and submission to EPA of product-specific data* listed on the form entitled "Product Specific Data Report" (EPA Form 8580-4, Appendix III-1) to fill gaps identified by EPA concerning your product. Under the authority of FIFRA sec. 3(c)(2)(B), EPA has determined that you must submit these data to EPA in order to reregister your product(s). All of these data must be submitted not later than six months after you receive this guidance document.

Table B--Product-Specific Data Requirements for Manufacturing Use Products--lists the product specific data you must submit. Data that are required to be submitted are identified in the column of those tables entitled "Must Data By Submitted Under §3(c)(2)(B)."

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*/ Product specific data pertain to data that support the formulation which is marketed; it usually includes product chemistry data and acute toxicity data.

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFAC 'NG-USE PRODUCTS CONTAINING FLUCHLORALIN (55% F

Data Requirement	Composition[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.120 Product Chemistry				
Product Identity:				
61-1 - Identity of Ingredients	MP	Yes	00036206	No
61-2 - Statement of Composition	MP	No		Yes 6 Months
61-3 - Discussion of Formation of Impurities	MP	No		Yes 6 Months
Analysis and Certification of Product Ingredients:				
62-1 - Preliminary Analysis of Product Samples	MP	No	-	Yes 12 Months
62-2 - Certification of Ingredient Limits	MP	No	-	Yes 12 Months
62-3 - Analytical Methods for Enforcement of Limits	MP	No	-	Yes 12 Months
Other Requirements:				
64-1 - Submittal of Samples	N/A	N/A	-	No

1/ The 55% FI serves as a manufacturing-use product.
2/ Composition: MP = Manufacturing-use product.

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFAC ...IG-USE PRODUCTS CONTAINING FLUCHLORALIN (55% F...

Data Requirement	Composition 2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?
§158.135 Toxicology				
ACUTE TESTING:				
81-1 - Acute Oral Toxicity - Rat	EC	No	--	Yes 3/ 9 Months
81-2 - Acute Dermal Toxicity - Rabbit	EC	No	--	Yes 3/ 9 Months
81-3 - Acute Inhalation Toxicity - Rat	EC	No	--	Yes 3/ 9 Months
81-4 - Primary Eye Irritation	EC	No	--	Yes 3/ 9 Months
81-5 - Primary Dermal Irritation	EC	No	--	Yes 3/ 9 Months
81-6 - Dermal Sensitization	EC	No	--	Yes 9 Months
81-7 - Delayed Neurotoxicity - Hen	EC	No	--	No

1/ The flowable intermediate form (FI) of fluchloralin is registered as a manufacturing-use product.

2/ EC = emulsifiable concentrate

3/ Data to fill these requirements has been submitted. However, the data were generated by Cannon Labs. These data are considered invalid until audited. The data submitted are stored under the following MRID numbers: 00039435, 00039441, 00039437, 00039438, 00039444, 00039443, 00039436, and 00039442. No data were adequate to fulfill the dermal sensitization study requirement.

4/ Data must be submitted within the indicated time-frame, based on the date of the Guidance Document.
° 9 Month Due Date is March 1, 1986.

IV. SUBMISSION OF REVISED LABELING

Note: This section applies to end use products only to the extent described in Section I (Regulatory Position and Rationale). Otherwise, the following information pertains exclusively to manufacturing use products.

FIFRA requires each product to be labeled with accurate, complete and sufficient instructions and precautions, reflecting the results of data concerning the product and its ingredients. Labeling requirements are set out in 40 CFR 162.10 (see Appendix IV-1) and are summarized for products containing this active ingredient as part of this Guidance Document (See Appendix IV-2). Applications submitted in response to this notice must include draft labeling for Agency review.

If you fail to submit revised labeling information complying with this section (supplemented by requirements described in Section I, Regulatory Position and Rationale), EPA may issue a notice of intent to cancel the registration under FIFRA sec. 6(b)(1).

A. Label Contents

40 CFR 162.10 requires that certain specific labeling statements appear at certain locations on the label. This is referred to as format labeling. Specific label items listed below are keyed to Appendix IV-2.

Item 1. PRODUCT NAME - The name, brand or trademark is required to be located on the front panel, preferably centered in the upper part of the panel. The name of a product will not be accepted if it is false or misleading.

Item 2. COMPANY NAME AND ADDRESS - The name and address of the registrant or distributor is required on the label. The name and address should preferably be located at the bottom of the front panel or at the end of the label text.

Item 3. NET CONTENTS - A net contents statement is required on all labels or on the container of the pesticide. The preferred location is the bottom of the front panel immediately above the company name and address, or at the end of the label text. The net contents must be expressed in the largest suitable unit, e.g., "1 pound 10 ounces" rather than "26 ounces." In addition to English units, net contents may be expressed in metric units. See Appendix IV-1. [40 CFR 162.10(d)]

Item 4. EPA REGISTRATION NUMBER - The registration number assigned to the pesticide product must appear on the label, preceded by the phrase "EPA Registration No.," or "EPA Reg. No." The registration number must be set in type of a size and style similar to other print on that part of the label on which it appears and must run parallel to it. The registration number and the required identifying phrase must not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency. See Appendix IV-1. [40 CFR 162.10(e)]

Item 5. EPA ESTABLISHMENT NUMBER - The EPA establishment number, preceded by the phrase "EPA Est." is the final establishment at which the product was produced, and may appear in any suitable location on the label or immediate container. It must also appear on the wrapper or outside container of the package if the EPA establishment number on the immediate container cannot be clearly read through such wrapper or container. See Appendix IV-1. [40 CFR 162.10(f)]

Item 6A. INGREDIENTS STATEMENT - An ingredients statement is required on the front panel. The ingredients statement must contain the name and percentage by weight of each active ingredient and the total percentage by weight of all inert ingredients. The preferred location is immediately below the product name. The ingredients statement must run parallel with, and be clearly distinguished from, other text on the panel. It must not be placed in the body of other text. See Appendix IV-1. [40 CFR 162.10(g)]

Item 6B. POUNDS PER GALLON STATEMENT - For liquid agricultural formulations, the pounds per gallon of active ingredient must be indicated on the label.

Item 7. FRONT LABEL PRECAUTIONARY STATEMENTS - Front panel precautionary statements must be grouped together, preferably within a block outline. The table below shows the minimum type size requirements for various size labels.

Size of Label on Front Panel in Square Inches	Signal Word Minimum Type Size All Capitals	"Keep Out of Reach of Children" Minimum Type Size
5 and under	6 point	6 point
above 5 to 10	10 point	6 point
above 10 to 15	12 point	8 point
above 15 to 30	14 point	10 point
over 30	18 point	12 point

Item 7A. CHILD HAZARD WARNING STATEMENT - The statement "Keep Out of Reach of Children" must be located on the front panel above the signal word except where contact with children during distribution or use is unlikely. See Appendix IV-1. [40 CFR 162.10(h)(1)(ii)]

Item 7B. SIGNAL WORD - The signal word (DANGER, WARNING, or CAUTION) is required on the front panel immediately below the child hazard warning statement. See Appendix IV-1. [40 CFR 162.10 (h)(1)(i)]

Item 7C. SKULL & CROSSBONES AND WORD "POISON" - On products assigned a toxicity Category I on the basis of oral, dermal, or inhalation toxicity, the word "Poison" shall appear on the label in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word POISON. See Appendix IV-1. [40 CFR 162.10(h)(1)(i)]

Item 7D. STATEMENT OF PRACTICAL TREATMENT - A statement of practical treatment (first aid or other) shall appear on the label of pesticide products in toxicity Categories I, II, and III. See Appendix IV-1. [40 CFR 162.10(h)(1)(iii)]

Item 7E. REFERRAL STATEMENT - The statement "See Side (or Back) Panel for Additional Precautionary Statements" is required on the front panel for all products, unless all required precautionary statements appear on the front panel. See Appendix IV-1. [40 CFR 162.10(h)(1)(iii)]

Item 8. SIDE/BACK PANEL PRECAUTIONARY LABELING - The precautionary statements listed below must appear together on the label under the heading "PRECAUTIONARY STATEMENTS." The preferred location is at the top of the side or back panel preceding the directions for use, and it is preferred that these statements be surrounded by a block outline. Each of the three hazard warning statements must be headed by the appropriate hazard title. See Appendix IV-1. [40 CFR 162.10 (h)(2)].

Item 8A. HAZARD TO HUMANS AND DOMESTIC ANIMALS - Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions to be taken to avoid accident, injury or damage. See Appendix IV-1. [40 CFR 162.10 (h)(2)(i)]

Item 8B. ENVIRONMENTAL HAZARD - Where a hazard exists to non-target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury, or damage. See Appendix IV-1. [40 CFR 162.10(h)(2)(ii)]

Item 8C. PHYSICAL OR CHEMICAL HAZARD

1. Flammability statement. Precautionary statements relating to flammability of a product are required to appear on the label if it meets the criteria in Appendix IV-3. The requirement is based on the results of the flashpoint determinations and flame extension tests required to be submitted for all products. These statements are to be located in the side/back panel precautionary statements section, preceded by the heading "Physical/Chemical Hazards." Note that no signal word is used in conjunction with the flammability statements.

2. Criteria for declaration of non-flammability. The following criteria will be used to determine if a product is non-flammable:

a. A "non-flammable gas" is a gas (or mixture of gases) that will not ignite when a lighted match is placed against the open cylinder valve.

b. A "non-flammable liquid" is one having a flashpoint greater than 350°F (177°C).

c. A "non-flammable aerosol" is one which meets the following criteria:

i. The flame extension is zero inches;

ii. There is no flashback; and

iii. The flashpoint of the non-volatile liquid component is greater than 350°F (177°C).

3. Declaration of non-flammability. Products which meet the criteria for non-flammability specified above may bear the notation "non-flammable" or "non-flammable (gas, liquid, etc.)" on the label. It may appear as a substatement to the ingredients statement, or on a back or side panel, but shall not be highlighted or emphasized (as with an inordinately large type size) in any way that may detract from precaution.

4. Other physical/chemical hazard statements. When chemistry data demonstrate hazards of a physical or chemical nature other than flammability, appropriate statements of hazard will be prescribed. Such statements may address hazards of explosivity, oxidizing or reducing capability, or mixing with other substances to produce toxic fumes.

Item 9A. RESTRICTED USE CLASSIFICATION - FIFRA sec. 3(d) requires that all pesticide formulations/uses be classified for either general or restricted use. Products classified for restricted use may be limited to use by certified applicators or persons under their direct supervision (or may be subject to other restrictions that may be imposed by regulation).

In the Registration Standard, the Agency has (1) indicated certain formulations/uses are to be restricted (Section I indicates why the product has been classified for restricted use); or (2) reserved any classification decision until appropriate data are submitted.

The Regulatory Position and Rationale states whether products containing this active ingredient are classified for restricted use. If they are restricted the draft label(s) submitted to the Agency as part of your application must reflect this determination (see below).

If you do not believe that your product should be classified for restricted use, you must submit any information and rationale with your application for reregistration. During the Agency's review of your application, your proposed classification determination will be evaluated in accordance with the provisions of 40 CFR 162.11(c). You will be notified of the Agency's classification decision.

A. Classification Labeling Requirements

If Section I of this Guidance Document indicates that your product has been classified for restricted use, the following label requirements apply:

1. Front panel statement of restricted use classification.

a. The statement "Restricted Use Pesticide" must appear at the top of the front panel of the label. The statement must be set in type of the same minimum size as required for human hazard signal word (see table in 40 CFR 162.10(h)(1)(iv).

b. Directly below this statement on the front panel, a summary statement of the terms of restriction must appear (including the reasons for restriction if specified in Section I). If use is restricted to certified applicators, the following statement is required: "For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's Certification."

2. Some but not all uses restricted. If the Regulatory Position and Rationale states that some uses are classified for restricted use, and some are unclassified, several courses of action are available:

a. You may label the product for Restricted use. If you do so, you may include on the label uses that are unrestricted, but you may not distinguish them on the label as being unrestricted.

b. You may delete all restricted uses from your label and submit draft labeling bearing only unrestricted uses.

c. You may "split" your registration, i.e., register two separate products with identical formulations, one bearing only unrestricted uses, and the other bearing restricted uses. To do so, submit two applications for reregistration, each containing all forms and necessary labels. Both applications should be submitted simultaneously. Note that the products will be assigned separate registration numbers.

B. Compliance Schedules

No product with a use classified for restricted use under this Standard may be released for shipment by the registrant or producer after one year from the date of issuance of this Standard, unless such product bears the restricted use classification. All products still in channels of trade after two years from the date of issuance of this Standard must be labeled for restricted use.

Item 9B [There is no Item 9B].

Item 9C. MISUSE STATEMENT - All products must bear the misuse statement, "It is a violation of Federal law to use this product in a manner inconsistent with its labeling." This statement appears at the beginning of the directions for use, directly beneath the heading of that section.

Item 10A. REENTRY STATEMENT - If a reentry interval has been established by the Agency, it must be included on the label. Additional worker protection statements may be required in accordance with PR Notice 83-2, March 29, 1983.

Item 10B [There is no Item 10B].

Item 10C. STORAGE AND DISPOSAL BLOCK - All labels are required to bear storage and disposal statements. These statements are developed for specific containers, sizes, and chemical content. These instructions must be grouped and appear under the heading "Storage and Disposal" in the directions for use. This heading must be set in the same type sizes as required for the child hazard warning. Refer to Appendix IV-4 to determine the disposal instructions appropriate for your products.

Item 10D. DIRECTIONS FOR USE - Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment. See Appendix IV-1. [40 CFR 162.10]

B. Collateral Labeling

Bulletins, leaflets, circulars, brochures, data sheets, flyers, or other written or graphic printed matter which is referred to on the label or which is to accompany the product are termed collateral labeling. Such labeling may not bear claims or representations that differ in substance from those accepted in connection with registration of the product. It should be made part of the response to this notice and submitted for review.

V. INSTRUCTIONS FOR SUBMISSION

A. For Manufacturing Products (MP) containing (name of pesticide) as an active ingredient.

1. Within 90 days from receipt of this document, you must submit to the Product Manager in the Registration Division at the address given at the end of this section the "FIFRA Section 3(c)(2)(B) Summary Sheet" EPA Form 8580-1. Refer to Appendix II-3 with appropriate attachments.

If on the Summary Sheet, you commit to develop the data, request a minor chemical exemption, present arguments that a data requirement is not applicable, or submit protocols or modified protocols for Agency review, you must also submit a copy of the Summary Sheet (and any supporting information) to the Office of Compliance Monitoring, which will be monitoring the data generated in response to this notice. This information should be submitted to the Office of Compliance Monitoring at the address given at the end of this section. (Actual studies are not to be submitted.)

2. Within 6 months from receipt of this document you must submit to the Product Manager on the Registration Division:

a. Confidential Statement of Formula, EPA Form 8570-4.

b. Product Specific Data Report, EPA Form 8580-4 (Appendix III-1).

c. Two copies of any required product-specific data.

d. Two copies of draft labeling, including the label and associated brochures. If current labeling conforms to the requirements of this guidance document and the results of the short-term data, you may submit such labeling. End use product labeling must comply specifically with the instructions in Section I (Regulatory Position and Rationale) of this guidance document. The labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 inch files. The draft label must indicate the intended colors of the final label, clear indication of the front panel label, and the intended type sizes of the text.

e. Evidence of compliance with data support requirements of FIFRA sec. 3(c)(1)(D). Refer to 40 CFR 152.80-152.99 (enclosed) for latest requirements.

3. Within the times set forth in Table A, you must submit to the Registration Division all generic data, unless you are eligible for the formulator's exemption. If for any reason any test is delayed or aborted so that the agreed schedule cannot be met, notify the Product Manager and the Office of Compliance Monitoring.

B. For Manufacturing Use Products containing (name of pesticide) in combination with other active ingredients

1. Within 90 days from receipt of this document, you must submit the "FIFRA Section 3(c)(2)(B) Summary Sheet," EPA Form 8580-1. Refer to Appendix II-3 with appropriate attachments.

If on the Summary Sheet, you commit to develop the data, request a minor chemical exemption, present arguments that a data requirement is not applicable, or submit protocols or modified protocols for Agency review, you must also submit a copy of the Summary Sheet (and any supporting information) to the Office of Compliance Monitoring, which will be monitoring the data generated in response to this notice. This information should be submitted to the Office of Compliance Monitoring at the address given at the end of this section. (Actual studies are not to be submitted.)

2. Within the times set forth in Table A, you must submit to the Registration Division all generic data, unless you are eligible for the formulator's exemption. If for any reason any test is delayed or aborted so that the agreed schedule cannot be met, notify the Product Manager and the Office of Compliance Monitoring.

C. For End Use Products containing (name of pesticide) alone or in combination with other active ingredients:

1. Within 90 days from receipt of this document, you must submit the "FIFRA Section 3(c)(2)(B) Summary Sheet," EPA Form 8580-1. Refer to Appendix II-3 with appropriate attachments.

If on the Summary Sheet, you commit to develop the data, request a minor chemical exemption, present arguments that a data requirement is not applicable, or submit protocols or modified protocols for Agency review, you must also submit a copy of the Summary Sheet (and any supporting information) to the Office of Compliance Monitoring, which will be monitoring the data generated in response to this notice. This information should be submitted to the Office of Compliance Monitoring at the address given at the end of this section. (Actual studies are not to be submitted.)

2. Within 6 months from receipt of this document you must submit:

a. Confidential Statement of Formula, EPA Form 8570-4.

b. Product-Specific Data Report, EPA Form 8580-4 (Appendix III-1).

c. Two copies of any required product-specific data. (Refer to Table C).

d. Two copies of draft labeling, including the label and associated brochures. If current labeling conforms to the requirements of this guidance document and the results of the short-term data, you may submit such labeling. End use product labeling must comply specifically with the instructions in Section I (Regulatory Position and Rationale) of this guidance document. Labeling should be either typewritten text on 8 1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8 1/2 inch files. The draft label must indicate the intended colors of the final label, clear indication of the front panel label, and the intended type sizes of the text.

e. Evidence of compliance with data support requirements of FIFRA sec. 3(c)(1)(D). Refer to 40 CFR 152.80-152.99 (enclosed) for latest requirements.

3. Within the time frames set forth in Table A, submit all generic data, unless you are eligible for the formulator's exemption.

D. For intrastate products containing (name of pesticide) either as the sole active ingredient or in combination with other active ingredients

These products are being called in for full Federal registration. Producers of these products are being sent a letter instructing them how to submit an application for registration.

E. Applications and other required information should be submitted to the following address:

Robert Taylor
Product Manager
Registration Division (TS-767C)
Office of Pesticide Programs
Environmental Protection Agency
401 M St., SW.
Washington, D.C. 20460
Phone No. (703) 557-1800

The address for submission to the Office of Compliance Monitoring is:

Laboratory Data Integrity Program
Office of Compliance Monitoring (EN-342)
Environmental Protection Agency
401 M St., SW.
Washington, D.C. 20460

Appendix II-1

Guide to Use of This Bibliography

1. CONTENT OF BIBLIOGRAPHY. This bibliography contains citations of all studies considered relevant by EPA in arriving at the positions and conclusions stated elsewhere in the Standard. Primary sources for studies in this bibliography have been the body of data submitted to EPA and its predecessor agencies in support of past regulatory decisions. Selections from other sources including the published literature, in those instances where they have been considered, will be included.

2. UNITS OF ENTRY. The unit of entry in this bibliography is called a "study." In the case of published materials, this corresponds closely to an article. In the case of unpublished materials submitted to the Agency, the Agency has sought to identify documents at a level parallel to the published article from within the typically larger volumes in which they were submitted. The resulting "studies" generally have a distinct title (or at least a single subject), can stand alone for purposes of review, and can be described with a conventional bibliographic citation. The Agency has attempted also to unite basic documents and commentaries upon them, treating them as a single study.

3. IDENTIFICATION OF ENTRIES. The entries in this bibliography are sorted numerically by "Master Record Identifier," or MRID, number. This number is unique to the citation, and should be used at any time specific reference is required. It is not related to the six-digit "Accession Number" which has been used to identify volumes of submitted studies; see paragraph 4(d)(4) below for a further explanation. In a few cases, entries added to the bibliography late in the review may be preceded by a nine-character temporary identifier. These entries are listed after all MRID entries. This temporary identifier number is also to be used whenever specific reference is needed.

4. FORM OF ENTRY. In addition to the Master Record Identifier (MRID), each entry consists of a citation containing standard elements followed, in the case of material submitted to EPA, by a description of the earliest known submission. Bibliographic conventions used reflect the standards of the American National Standards Institute (ANSI), expanded to provide for certain special needs.

a. Author. Whenever the Agency could confidently identify one, the Agency has chosen to show a personal author. When no individual was identified, the Agency has shown an identifiable laboratory or testing facility as author. As a last resort, the Agency has shown the first submitter as author.

b. Document Date. When the date appears as four digits with no question marks, the Agency took it directly from the document. When a four-digit date is followed by a question mark, the bibliographer deduced the date from evidence in the document. When the date appears as (19??), the Agency was unable to determine or estimate the date of the document.

c. Title. In some cases, it has been necessary for Agency bibliographers to create or enhance a document title. Any such editorial insertions are contained between square brackets.

d. Trailing Parentheses. For studies submitted to the Agency in the past, the trailing parentheses include (in addition to any self-explanatory text) the following elements describing the earliest known submission:

(1) Submission Date. The date of the earliest known submission appears immediately following the word "received."

(2) Administrative Number. The next element, immediately following the word "under," is the registration number, experimental use permit number, petition number, or other administrative number associated with the earliest known submission.

(3) Submitter. The third element is the submitter, following the phrase "submitted by." When authorship is defaulted to the submitter, this element is omitted.

(4) Volume Identification (Accession Numbers). The final element in the trailing parentheses identifies the EPA accession number of the volume in which the original submission of the study appears. The six-digit accession number follows the symbol "CDL," standing for "Company Data Library." This accession number is in turn followed by an alphabetic suffix which shows the relative position of the study within the volume. For example, within accession number 123456, the first study would be 123456-A; the second, 123456-B; the 26th, 123456-Z; and the 27th, 123456-AA.

APPENDIX II-2

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting
Registrations Under the Fluchloralin Standard

MRID CITATION

00036206 BASF Wyandotte Corporation (1973) Statement Proposing Common Name--Fluchloralin. (Unpublished study including letter dated Mar 29, 1973 from D.L. Klingman to Donald M. Yoder, received on unknown date under 3G1395; CDL:095435-A)

00036211 BASF Wyandotte Corporation (19??) Confidential Statement of the Manufacturing Process of Bas 392-H. (Unpublished study received on unknown date under 3G1395; CDL:095435-F)

00036657 Wuerzer, B. (1975) Determination of Fluchloralin (Bas 392-H) and Bas 392-D-4 Residues in Radish (Roots and Leaves), Squash and Cotton Seed from Greenville, Miss.: Report No. B-28. (Unpublished study received Apr 14, 1975 under 5F1621; prepared by Bio/dynamics, Inc. in cooperation with United States Testing Co., Inc.; submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:094412-C)

00036665 Drescher, N.; Eschbach, J.C. (1975) Determination of Fluchloralin (Bas 392-H) and Its Phenolic Metabolite, Bas 392-D-4, in Cotton Foliage, Seed and Soil. Method no. 2A dated Apr 7, 1975. (Unpublished study received Apr 14, 1975 under 5F1621; submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:094411-A)

00036673 Horton, W.E. (1975) Statistical Evaluation of the Recovery Data Generated Using BWC Agricultural Chemicals Methods 2A and 15 for Cotton, Soybeans, Soil and Rotational Crops: Report No. SR-21. (Unpublished study received Apr 14, 1975 under 5F1621; submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:094411-I)

00039445 Gilman, M.R.; Sweitzer, T.L. (1972) Report: The Toxic Effects of Technical Bas 392-H on Bluegill Sunfish and Rainbow Trout: Laboratory No. E-5338. (Unpublished study received on unknown date under 3G1395; prepared by Cannon Laboratories, Inc., submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:093727-AD)

MRID CITATION

00039449 Gilman, M.R.; Sweitzer, T. (1972) Report: Reproductive Study of Bas 392-H in Bobwhite Quail: Laboratory No. E05109. (Unpublished study received on unknown date under 3G1395; prepared by Cannon Laboratories, Inc., submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:093727-AH)

00039450 Gilman, M.R.; Sweitzer, T. (1972) Report: Reproductive Study of Bas 392-H in Mallard Ducks: Laboratory No. E-5108. (Unpublished study received on unknown date under 3G1395; prepared by Cannon Laboratories, Inc., submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:093727-AI)

00047773 Aschman, R.E.; Dowler, C.; Thompson, J.; et al. (1974) Residue Study: Fluchloralin (Bas 392-H) in Soybeans: Field Experiment No. IV-C-2-73. (Unpublished study including field experiment nos. IV-C-3-73, VII-A-14-13, VIII-B-25-73..., received Aug 23, 1974 under 5G1543; prepared in cooperation with Brayton Chemical Co. and others, submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:094201-A)

00047905 BASF Wyandotte Corporation (19??) Summary of Fluchloralin (Bas 392-H) Residues in Soybeans. (Unpublished study received Aug 23, 1974 under 5G1543; CDL:094203-A)

00047907 Drescher, N.; Devine, J. (1973) Determination of Bas 392-H...and Bas 392-D-4...Residues in Whole Cotton Plants, Cottonseed, Cotton Gin Trash, and Soil by Gas Chromatography. Method no. 2 dated Apr 30, 1973. (Unpublished study received Aug 23, 1974 under 5G1543; prepared in cooperation with BASF, Germany and Lake Ontario Environmental Laboratory, submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:094203-C)

00052467 Otto, S. (1974) Investigations on the Metabolism of Fluchloralin (N-(2-Chloroethyl)-2,6-dinitro-N-propyl-4-trifluoromethyl aniline) in Soybeans: Lab Report No. 1215. (Unpublished study received Aug 23, 1974 under 5G1543; prepared by BASF, AG, submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:094204-B)

00052468 BASF, Aktiengesellschaft (1974) Investigations on the Behavior of N-Propyl-N-(2-chloroethyl)-2,6-dinitro-4-trifluoromethyl aniline (BAS 392-H) in Soil: Lab Report No. 1214. (Unpublished study received Aug 23, 1974 under 5G1543; submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:094204-C)

MRID CITATION

00052469 Gilman, M.R.; Joseph, T.C. (1973) Report: Determination of Residues in Milk and Tissues of Lactating Cows following the Oral Administration of Radioactive BAS 392-H: Laboratory No. E-7778. (Unpublished study received Aug 23, 1974 under 5G1543; prepared by Cannon Laboratories, Inc., submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:094204-D)

00052470 Joseph, T.C. (1974) Report: Determination of Residues in Egg and Tissues of Laying Hens following the Oral Administration of Radioactive GAS 392-H: Laboratory No.E-7959. (Unpublished study received Aug 23, 1974 under 5F1543; perpared by Cannon Laboratories, Inc., sublitted by BASF Wyandotte Cor. CDL:094204-E.)

00055010 Drescher, N.; Eschbach, J.C. (1975) Determination of Fluchloralin (BAS 392-H) and Its Phenolic Metabolite, BAS 392-D-4, in Soybean Foliage, Grain and Soil. Method no. 15 dated Mar 24, 1975. (Unpublished study received Oct 12, 1976 under 7G1876; prepared in cooperation with BASF, AG, Germany, submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:095300-E)

00055011 Guzman, B. (1976) Specificity of BWC Agricultural Chemicals Method No. 15 for the Determination of Fluchloralin in Peanuts (Forage, Hay, Nuts, Hulls, Nut plus Hull and Process Fractions): Report No. SR-38. (Unpublished study received Oct 12, 1976 under 7G1876; submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:095300-F)

00055012 Guzman, B. (1976) Statistical Evaluation of the Recovery Data Generated Using BWC Agricultural Chemicals Method No. 15 with Addendum for Peanuts (Forage, Hay, Nuts, Hulls, Nut plus Hull and Process Fractions): Report No. SR-40. (Unpublished study received Oct 12, 1976 under 7G1876; submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:095300-G)

00055013 Horton, W. (1976) Freezer Storage Stability of Fluchloralin (BAS 392-H) and Its Phenolic Metabolite (Bas 392-D-4) in Peanut Forage: Report No. SR-39. (Unpublished study received Oct 12, 1976 under 7G1876; submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:095300-H)

00085055 BASF Wyandotte Corporation (1980) Basalin (R) Herbicides Full Tolerances and Registration for Use in Seed and Pod Vegetables and Sunflower. (Unpublished study received Oct 20, 1981 under 7969-46; CDL:070419-B)

MRID CITATION

00085056 Craven, D.A.; Atwell, S.; Crosbie, S.; et al. (1980) Determination of Fluchloralin (BAS 392-H) Residues in Seed and Pod Vegetable (Succulent and Dry Form) Seed, Forage, and Hay Samples: Report No. CR-2. (Unpublished study received Oct 20, 1981 under 7969-46; prepared in cooperation with Craven Laboratories, Inc. and others, submitted by BASF Wyandotte Corp., Parsippany, N.J.; CDL:070419-D)

00085058 Craven, D.A.; Crosbie, S.; Harden, J.; et al. (1981) Determination of Fluchloralin (BAS 392-H) Residues in Sunflower Seed and Head Samples: Report No. CR-3. (Unpublished study received Oct 20, 1981 under 7969-46; prepared in cooperation with Craven Laboratories, Inc. and others, submitted by BASF Wyandotte Co., Parsippany, N.J.; CDL:070419-F)

00104436 Stauffer Chemical Co. (1978) Residue Studies of Various Chemicals on Soybeans. (Compilation; unpublished study received Jun 20, 1979 under 476-2155; CDL:238641-C)

00106497 Cannon, G.; Krize, J. (1976) Fluchloralin Egg to Egg Reproduction Study in Fathead Minnows: Laboratory No. 5E-6011; Report I-1. (Unpublished study received Oct 12, 1976 under 7G1876; prepared by Cannon Laboratories, Inc., submitted by BASF Wyandotte Corp., Wyandotte, MI; CDL:095302-B)

00106498 Willard, J.; Atkins, E. (1976) The Toxicity of Basalin to Worker Honey Bees: Report I-2. (Unpublished study received Oct 12, 1976 under 7G1876; prepared in cooperation with Univ. of California--Riverside, Dept. of Entomology, submitted by BASF Wyandotte Corp., Wyandotte, MI; CDL:095302-C)

00106501 BASF Wyandotte Corp. (1976) Residues of Fluchloralin in Peanuts. (Compilation; unpublished study received Oct 12, 1976 under 7G1876; CDL:095304-A)

00106520 Nilles, G.; Zabik, M. (1974) Photochemistry of bioactive compounds. Multiphase photodegradation of basalin. J. Agr. Food Chem. 22(4):684-688. (Also in unpublished submission received Aug 23, 1974 under 5G1543; submitted by BASF Wyandotte Corp., Wyandotte, MI; CDL:094199-B)

MRID CITATION

00106529 Otto, S.; Huber, R. (1975) The Metabolism of Fluchloralin in Soybeans after Root-uptake from a Nutrient Solution: Report No. 1259. (Unpublished study received Apr 14, 1975 under 5F1621; prepared by BASF, AG, W. Ger., submitted by BASF Wyandotte Corp., Wyandotte, MI; CDL:094403-B)

00106530 Huber, R.; Otto, S. (1975) Investigations on the Metabolism of Fluchloralin in Cotton (1974 Mississippi Field Metabolism Experiment): Report No. 1257. (Unpublished study received Apr 14, 1975 under 5F1621; prepared by BASF, AG, W. Ger., submitted by BASF Wyandotte Corp., Wyandotte, MI; CDL:094403-C)

00106531 BASF Wyandotte Corp. (1975) Fluchloralin Residue Analyses--Soybean. (Compilation; unpublished study received Apr 14, 1975 under 5F1621; CDL:094403-D)

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00106538 BASF Wyandotte Corp. (1975) Environmental Chemistry: Fluchloralin. (Compilation; unpublished study received Apr 14, 1975 under 5F1621; CDL:094406-B; 094410)

00106540 BASF Wyandotte Corp. (1973) Plant Metabolism and Residue Analysis: BAS 392-H. (Compilation; unpublished study received on unknown date under 3G1395; CDL:093723-B)

00106543 BASF Wyandotte Corp. (1976) Residue Reports: Fluchloralin in Peanuts. (Compilation; unpublished study received Oct 12, 1976 under 7G1876; CDL:095305-A)

MRID	CITATION

GS-0189001 BASF Wyandotte Corp. (1973) Animal Metabolism Studies. Unpublished study.

GS-0189002 Boodee, W. (1975) Memorandum sent to J. Cummings dated June 18, 1975 in EPA Administrative Record for PP#5F1621: Method Trial for Fluchloralin on Soybeans (Method No. 15). 1 p.

GS-0189003 Craven, D. (1981) Specificity of BWC Agricultural Chemicals Method No. 15 as Modified in Addendum Number 2 for the Determination of Fluchloralin (BAS 392-H) Residues in Seed and Pod Vegetable (Succulent and Dry Form) Seeds, Forage and Hay: Report No. SR-71. Unpublished study. 21 p.

GS-0189004 Rosenthal,H.; Portnoy, C. (1981) Specificity of BWC Agricultural Chemicals Method No. 15 as Modified in Addendum Number 3 for the Determination of Fluchloralin (BAS-392-H) Residues in Sunflower Seeds, Heads and Sunflower Seed Process Fractions (Meal, Hulls, and Crude Oil): Report No. SR-72. Unpublished study. 16 p.

OMB Approval No. 2000-0468 APPENDIX [illegible]

FIFRA SECTION 3(C)(2)(B) SUMMARY SHEET

EPA REGISTRATION NO.

PR * NAME

APPLICANT'S NAME

DATE GUIDANCE DOCUMENT ISSUED

With respect to the requirement to submit "generic" data imposed by the FIFRA section 3(C)(2)(B) notice contained in the referenced Guidance Document, I am responding in the following manner:

☐ 1. I will submit data in a timely manner to satisfy the following requirements. If the test procedures I will use deviate from (or are not specified in) the Registration Guidelines or the Protocols contained in the Reports of Expert Groups to the Chemicals Group, OECD Chemicals Testing Programme, I enclose the protocols that I will use:

☐ 2. I have entered into an agreement with one or more other registrants under FIFRA section 3(C)(2)(B)(ii) to satisfy the following data requirements. The tests, and any required protocols, will be submitted to EPA by:

NAME OF OTHER REGISTRANT

☐ 3. I enclose a completed "Certification of Attempt to Enter Into an Agreement with Other Registrants for Development of Data" with respect to the following data requirements:

☐ 4. I request that you amend my registration by deleting the following uses (this option is not available to applicants for new products):

☐ 5. I request voluntary cancellation of the registration of this product. (This option is not available to applicants for new products.)

Reproduced from best available copy.

NT'S AUTHORIZED REPRESENTATIVE | SIGNATURE | DATE

APPENDIX II-L

OMB Approval No. 2000-0468

CERTIFICATION OF ATTEMPT TO ENTER INTO AN AGREEMENT WITH OTHER REGISTRANTS FOR DEVELOPMENT OF DATA

o : certify ALL four items)

I am duly authorized to represent the following firm(s) who are subject to the requirements of a Notice under FIFRA Section 3(c)(2)(B) contained in a Guidance Document to submit data concerning the active ingredient:

GUIDANCE DOCUMENT DATE

ACTIVE INGREDIENT

NAME OF FIRM	EPA COMPANY NUMBER

his firm or group of firms is referred to below as "my firm".)

My firm is willing to develop and submit the data as required by that Notice, if necessary. However, my firm would prefer to enter into an agreement with one or more other registrants to develop jointly, or to share in the cost of developing, the following required items or data:

My firm has offered in writing to enter into such an agreement. Copies of the offers are attached. That offer was irrevocable and included an offer to be bound by an arbitration decision under FIFRA Section 3(c)(2)(B)(iii) if final agreement on all terms could not be reached otherwise. This offer was made to the following firm(s) on the following date(s):

NAME OF FIRM	DATE OF OFFER

ow one of those firm(s) accepted my offer.

M. I requests that EPA not suspend the registration(s) of my firm's product(s), if any of the firms named in paragraph (3) above have agreed to submit the data listed in paragraph (2) above in accordance with the Notice. I understand EPA will promptly inform me whether my firm must submit data to avoid suspension of its registration(s) under FIFRA Section 3(c)(2)(B). (This statement does not apply to applicants for new products.) I give EPA permission to disclose this statement upon request.

SIGNATURE DATE

Appendix III-1

PRODUCT SPECIFIC DATA REPORT

EPA Registration No._____ Guidance Document for_____

Date_____

Registration Guideline No.	Name of Test	Test not required for my product listed above (check below)	I am complying with data requirements by		(For EPA Use Only) Accession Numbers Assigned
			Citing MRID#	Submitting Data (Attached)	
§158.20 PRODUCT CHEMISTRY					
61-1	Identity of ingredients				
61-2	Statement of composition				
61-3	Discussion of formation of ingredients				
62-1	Preliminary analysis				
62-2	Certification of limits				
62-3	Analytical methods for enforcement limits				
63-2	Color				
63-3	Physical state				
63-4	Odor				
63-5	Melting point				
63-6	Boiling point				
63-7	Density, bulk-density, or specific gravity				
63-8	Solubility				
63-9	Vapor pressure				
63-10	Dissociation constant				
63-11	Octanol/water partition coefficient				
63-12	pH				

§162.10 Labeling requirements.

(a) General--(1) Contents of the label. Every pesticide product shall bear a label containing the information specified by the Act and the regulations in this Part. The contents of a label must show clearly and prominently the following:

(i) The name, brand, or trademark under which the product is sold as prescribed in paragraph (b) of this section;

(ii) The name and address of the producer, registrant, or person for whom produced as prescribed in paragraph (c) of this section;

(iii) The net contents as prescribed in paragraph (d) of this section;

(iv) The product registration number as prescribed in paragraph (e) of this section;

(v) The producing establishment number as prescribed in paragraph (f) of this section;

(vi) An ingredient statement as prescribed in paragraph (g) of this section;

(vii) Warning or precautionary statements as prescribed in paragraph (h) of this section;

(viii) The directions for use as prescribed in paragraph (i) of this section; and

(ix) The use classification(s) as prescribed in paragraph (j) of this section.

(2) Prominence and legibility. (i) All words, statements, graphic representations, designs or other information required on the labeling by the Act or the regulations in this part must be clearly legible to a person with normal vision, and must be placed with such conspicuousness (as compared with other words, statements, designs, or graphic matter on the labeling) and expressed in such terms as to render it likely to be read and understood by the ordinary individual under customary conditions of purchase and use.

(ii) All required label text must:

(A) Be set in 6-point or larger type;

(B) Appear on a clear contrasting background; and

(C) Not be obscured or crowded.

(3) Language to be used. All required label or labeling text shall appear in the English language. However, the Agency may require or the applicant may propose additional text in other languages as is considered necessary to protect the public. When additional text in another language is necessary, all labeling requirements will be applied equally to both the English and other-language versions of the labeling.

(4) Placement of Label--(i) General. The label shall appear on or be securely attached to the immediate container of the

pesticide product. For purposes of this Section, and the misbranding provisions of the Act, "securely attached" shall mean that a label can reasonably be expected to remain affixed during the foreseeable conditions and period of use. If the immediate container is enclosed within a wrapper or outside container through which the label cannot be clearly read, the label must also be securely attached to such outside wrapper or container, if it is a part of the package as customarily distributed or sold.

(ii) Tank cars and other bulk containers--(A) Transportation. While a pesticide product is in transit, the appropriate provisions of 49 CFR Parts 170-189, concerning the transportation of hazardous materials, and specifically those provisions concerning the labeling, marking and placarding of hazardous materials and the vehicles carrying them, define the basic Federal requirements. In addition, when any registered pesticide product is transported in a tank car, tank truck or other mobile or portable bulk container, a copy of the accepted label must be attached to the shipping papers, and left with the consignee at the time of delivery.

(B) Storage. When pesticide products are stored in bulk containers, whether mobile or stationary, which remain in the custody of the user, a copy of the label of labeling, including all appropriate directions for use, shall be securely attached to the container in the immediate vicinity of the discharge control valve.

(5) False or misleading statements. Pursuant to section 2(q)(1)(A) of the Act, a pesticide or a device declared subject to the Act pursuant to § 162.15, is misbranded if its labeling is false or misleading in any particular including both pesticidal and non-pesticidal claims. Examples of statements or representations in the labeling which constitute misbranding include:

(i) A false or misleading statement concerning the composition of the product;

(ii) A false or misleading statement concerning the effectiveness of the product as a pesticide or device;

(iii) A false or misleading statement about the value of the product for purposes other than as a pesticide or device;

(iv) A false or misleading comparison with other pesticides or devices;

(v) Any statement directly or indirectly implying that the pesticide or device is recommended or endorsed by any agency of the Federal Government;

(vi) The name of a pesticide which contains two or more principal active ingredients if the name suggests one or more but not all such principal active ingredients even though the names of the other ingredients are stated elsewhere in the labeling;

(vii) A true statement used in such a way as to give a false or misleading impression to the purchaser;

(viii) Label disclaimers which negate or detract from labeling statements required under the Act and these regulations;

(ix) Claims as to the safety of the pesticide or its ingredients, including statements such as "safe," "nonpoisonous," "noninjurious," "harmless" or "nontoxic to humans and pets" with or without such a qualifying phrase as "when used as directed"; and

(x) Non-numerical and/or comparative statements on the safety of the product, including but not limited to:

(A) "Contains all natural ingredients";

(B) "Among the least toxic chemicals known"

(C) "Pollution approved"

(6) Final printed labeling. (i) Except as provided in paragraph (a)(6)(ii) of this section, final printed labeling must be submitted and accepted prior to registration. However, final printed labeling need not be submitted until draft label texts have been provisionally accepted by the Agency.

(ii) Clearly legible reproductions or photo reductions will be accepted for unusual labels such as those silk-screened directly onto glass or metal containers or large bag or drum labels. Such reproductions must be of microfilm reproduction quality.

(b) Name, brand, or trademark. (1) The name, brand, or trademark under which the pesticide product is sold shall appear on the front panel of the label.

(2) No name, brand, or trademark may appear on the label which:

(i) Is false or misleading, or

(ii) Has not been approved by the Administrator through registration or supplemental registration as an additional name pursuant to § 162.6(b)(4).

(c) Name and address of producer, registrant, or person for whom produced. An unqualified name and address given on the label shall be considered as the name and address of the producer. If the registrant's name appears on the label and the registrant is not the producer, or if the name of the person for whom the pesticide was produced appears on the label, it must be qualified by appropriate wording such as "Packed for ***," "Distributed by ***," or "Sold by ***" to show that the name is not that of the producer.

(d) Net weight or measure of contents. (1) The net weight or measure of content shall be exclusive of wrappers or other materials and shall be the average content unless explicitly stated as a minimum quantity.

(2) If the pesticide is a liquid, the net content statement shall be in terms of liquid measure at 68°F (20°C) and shall be expressed in conventional American units of fluid ounces, pints, quarts, and gallons.

(3) If the pesticide is solid or semisolid, viscous or pressurized, or is a mixture of liquid and solid, the net content statement shall be in terms of weight expressed as avoirdupois pounds and ounces.

(4) In all cases, net content shall be stated in terms of the largest suitable units, i.e., "1 pound 10 ounces" rather than "26 ounces."

(5) In addition to the required units specified, net content may be expressed in metric units.

(6) Variation above minimum content or around an average is permissible only to the extent that it represents deviation unavoidable in good manufacturing practice. Variation below a stated minimum is not permitted. In no case shall the average content of the packages in a shipment fall below the stated average content.

(e) Product registration number. The registration number assigned to the pesticide product at the time of registration shall appear on the label, preceded by the phrase "EPA Registration No.," or the phrase "EPA Reg. No." The registration number shall be set in type of a size and style similar to other print on that part of the label on which it appears and shall run parallel to it. The registration number and the required identifying phrase shall not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency.

(f) Producing establishments registration number. The producing establishment registration number preceded by the phrase "EPA Est.", of the final establishment at which the product was produced may appear in any suitable location on the label or immediate container. It must appear on the wrapper or outside container of the package if the EPA establishment registration number on the immediate container cannot be clearly read through such wrapper or container.

(g) Ingredient statement--(1) General. The label of each pesticide product must bear a statement which contains the name and percentage by weight of each active ingredient, the total percentage by weight of all inert ingredients; and if the pesticide contains arsenic in any form, a statement of the percentages of total and water-soluble arsenic calculated as elemental arsenic. The active ingredients must be designated by the term "active ingredients" and the inert ingredients by the term "inert ingredients," or the singular forms of these terms when appropriate. Both terms shall be in the same type size, be aligned to the same margin and be equally prominent. The statement "Inert Ingredients, none" is not required for pesticides which contain 100 percent active ingredients. Unless the ingredient statement is a complete analysis of the pesticide, the term "analysis" shall not be used as a heading for the ingredient statement.

(2) Position of ingredient statement. (i) The ingredient statement is normally required on the front panel of the label. If there is an outside container or wrapper through which the ingredient statement cannot be clearly read, the ingredient statement must also appear on such outside container or wrapper. If the size or form of the package makes it impracticable to place the ingredient statement on the front panel of the label, permission may be granted for the ingredient statement to appear elsewhere.

(ii) The text of the ingredient statement must run parallel with other text on the panel on which it appears, and must be clearly distinguishable from and must not be placed in the body of other text.

(3) Names to be used in ingredient statement. The name used for each ingredient shall be the accepted common name, if there is one, followed by the chemical name. The common name may be used alone only if it is well known. If no common name has been established, the chemical name alone shall be used. In no case will the use of a trademark or proprietary name be permitted unless such name has been accepted as a common name by the Administrator under the authority of Section 25(c)(6).

(4) Statements of percentages. The percentages of ingredients shall be stated in terms of weight-to-weight. The sum of percentages of the active and the inert ingredients shall be 100. Percentages shall not be expressed by a range of values such as "22-25%." If the uses of the pesticide product are expressed as weight of active ingredient per unit area, a statement of the weight of active ingredient per unit volume of the pesticide formulation shall also appear in the ingredient statement.

(5) Accuracy of stated percentages. The percentages given shall be as precise as possible reflecting good manufacturing practice. If there may be unavoidable variation between manufacturing batches, the value stated for each active ingredient shall be the lowest percentage which may be present.

(6) Deterioration. Pesticides which change in chemical composition significantly must meet the following labeling requirements:

(i) In cases where it is determined that a pesticide formulation changes chemical composition significantly, the product must bear the following statement in a prominent position on the label: "Not for sale or use after [date]."

(ii) The product must meet all label claims up to the expiration time indicated on the label.

(7) Inert ingredients. The Administrator may require the name of any inert ingredient(s) to be listed in the ingredient statement if he determines that such ingredient(s) may pose a hazard to man or the environment.

(h) Warnings and precautionary statements. Required warnings and precautionary statements concerning the general areas of toxicological hazard including hazard to children, environmental hazard, and physical or chemical hazard fall into two groups; those required on the front panel of the labeling and those which may appear elsewhere. Specific requirements concerning content, placement, type size, and prominence are given below.

(1) Required front panel statements. With the exception of the child hazard warning statement, the text required on the front panel of the label is determined by the Toxicity Category of the pesticide. The category is assigned on the basis of the highest hazard shown by any of the indicators in the table below:

Hazard indicators	Toxicity categories			
	I	II	III	IV
Oral LD_{50}	Up to and including 50 mg/kg	From 50 thru 500 mg/kg	From 500 thru 5000 mg/kg	Greater than 5000 mg/kg
Inhalation LC_{50}	Up to and including .2 mg/liter	From .2 thru 2 mg/liter	From 2 thru 20 mg/liter	Greater than 20 mg/liter
Dermal LD_{50}	Up to and including 200 mg/kg	From 200 thru 2000	From 2,000 thru 20,000	Greater than 20,000
Eye effects	Corrosive; corneal opacity not reversible within 7 days	Corneal opacity reversible within 7 days; irritation persisting for 7 days	No corneal opacity; irritation reversible within 7 days	No irritation
Skin effects	Corrosive	Severe irritation at 72 hours	Moderate irritation at 72 hours	Mild or slight irritation at 72 hours

(i) Human hazard signal word.--(A) Toxicity Category I. All pesticide products meeting the criteria of Toxicity Category I shall bear on the front panel the signal word "Danger." In addition if the product was assigned to Toxicity Category I on the basis of its oral, inhalation or dermal toxicity (as distinct from skin and eye local effects) the word "Poison" shall appear in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word "poison."

(B) Toxicity Category II. All pesticide products meeting the criteria of Toxicity Category II shall bear on the front panel the signal word "Warning."

(C) Toxicity Category III. All pesticide products meeting the criteria of Toxicity Category III shall bear on the front panel the signal word "Caution."

(D) Toxicity Category IV. All pesticide products meeting the criteria of Toxicity Category IV shall bear on the front panel the signal word "Caution."

(E) Use of signal words. Use of any signal word(s) associated with a higher Toxicity Category is not permitted except when the Agency determines that such labeling is necessary to prevent unreasonable adverse effects on man or the environment. In no case shall more than one human hazard signal word appear on the front panel of a label.

(ii) Child hazard warning. Every pesticide product label shall bear on the front panel the statement "keep out of reach of children." Only in cases where the likelihood of contact with children during distribution, marketing, storage or use is demonstrated by the applicant to be extremely remote, or if the nature of the pesticide is such that it is approved for use on infants or small children, may the Administrator waive this requirement.

(iii) Statement of practical treatment--(A) Toxicity Category I. A statement of practical treatment (first aid or other) shall appear on the front panel of the label of all pesticides falling into Toxicity Category I on the basis of oral, inhalation or dermal toxicity. The Agency may, however, permit reasonable variations in the placement of the statement of practical treatment is some reference such as "See statement of practical treatment on back panel" appears on the front panel near the word "Poison" and the skull and crossbones.

(B) Other toxicity categories. The statement of practical treatment is not required on the front panel except as described in paragraph (h)(1)(iii)(A) of this section. The applicant may, however, include such a front panel statement at his option. Statements of practical treatment are, however, required elsewhere on the label in accord with paragraph (h)(2) of this section if they do not appear on the front panel.

(iv) Placement and prominence. All the required front panel warning statements shall be grouped together on the label, and shall appear with sufficient prominence relative to other front panel text and graphic material to make them unlikely to be overlooked under customary conditions of purchase and use. The following table shows the minimum type size requirements for the front panel warning statements on various sizes of labels:

Size of label front panel in square inches	Points	
	Required signal word, all capitals	"Keep out of reach of Children"
5 and under	6	6
Above 5 to 10	10	6
Above 10 to 15	12	8
Above 15 to 30	14	10
Over 30	18	12

(2) Other required warnings and precautionary statements. The warnings and precautionary statements as required below shall appear together on the label under the general heading "Precautionary Statements" and under appropriate subheadings of "Hazard to Humans and Domestic Animals," "Environmental Hazard" and "Physical or Chemical Hazard."

(i) Hazard to humans and domestic animals. (A) Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions to be taken to avoid accident, injury or damage. The precautionary paragraph shall be immediately preceded by the appropriate hazard signal word.

(B) The following table depicts typical precautionary statements. These statements must be modified or expanded to reflect specific hazards.

Toxicity category	Precautionary statements by toxicity category	
	Oral, inhalation, or dermal toxicity	Skin and eye local effects
I . . .	Fatal (poisonous) if swallowed [inhaled or absorbed through skin]. Do not breathe vapor [dust] or spray mist]. Do not get in eyes, on skin, or on clothing [Front panel statement of practical treatment required.].	Corrosive, causes eye and skin damage [or skin irritation]. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. [Appropriate first aid statement required.]
II . . .	May be fatal if swallowed [inhaled or absorbed through the skin]. Do not breathe vapors [dust or spray mist]. Do not get in eyes, on skin, or on clothing. [Appropriate first aid statements required.].	Causes eye [and skin] irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. [Appropriate first aid statement required.].
III . . .	Harmful if swallowed [inhaled or absorbed through the skin]. Avoid breathing vapors [dust or spray mist]. Avoid contact with skin [eyes or clothing]. [Appropriate first aid statement required.].	Avoid contact with skin, eyes or clothing. In case of contact immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.
IV . . .	[No precautionary statements required.].	[No precautionary statements required.].

(ii) Environmental hazards. Where a hazard exists to non-target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury or

damage. Examples of the hazard statements and the circumstances under which they are required follow:

(A) If a pesticide intended for outdoor use contains an active ingredient with a mammalian acute oral LD_{50} of 100 or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(B) If a pesticide intended for outdoor use contains an active ingredient with a fish acute LC_{50} of 1 ppm or less, the statement "This Pesticide is Toxic to Fish" is required.

(C) If a pesticide intended for outdoor use contains an active ingredient with an avian acute oral LD_{50} of 100 mg/kg or less, or a subacute dietary LC_{50} of 500 ppm or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(D) If either accident history or field studies demonstrate that use of the pesticide may result in fatality to birds, fish or mammals, the statement "This pesticide is extremely toxic to wildlife (fish)" is required.

(E) For uses involving foliar application to agricultural crops, forests, or shade trees, or for mosquito abatement treatments, pesticides toxic to pollinating insects must bear appropriate label cautions.

(F) For all outdoor uses other than aquatic applications the label must bear the caution "Keep out of lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes."

(iii) Physical or chemical hazards. Warning statements on the flammability or explosive characteristics of the pesticide are required as follows:

Flash point	Required text
(A) PRESSURIZED CONTAINERS	
Flash point at or below 20°F; if there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
Flash point above 20°F and not over 80°F or if the flame extension is more than 18 in. long at a distance of 6 in. from the flame.	Flammable. Contents under pressure. Keep away from heat, sparks, and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
All other pressurized containers	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
(B) NONPRESSURIZED CONTAINERS	
At or below 20°F	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
Above 20°F and not over 80°F	Flammable. Keep away from heat and open flame.
Above 80°F and not over 150°F	Do not use or store near heat or open flame.

(i) Directions for Use--(1) General requirements--(i) Adequacy and clarity of directions. Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment.

(ii) Placement of directions for use. Directions may appear on any portion of the label provided that they are conspicuous enough to be easily read by the user of the pesticide product. Directions for use may appear on printed or graphic matter which accompanies the pesticide provided that:

(A) If required by the Agency, such printed or graphic matter is securely attached to each package of the pesticide, or placed within the outside wrapper or bag;

(B) The label bears a reference to the directions for use in accompanying leaflets or circulars, such as "See directions in the enclosed circular." and

(C) The Administrator determines that it is not necessary for such directions to appear on the label.

(iii) Exceptions to requirement for direction for use--(A) Detailed directions for use may be omitted from labeling of pesticides which are intended for use only by manufacturers of products other than pesticide products in their regular manufacturing processes, provided that:

(1) The label clearly shows that the product is intended for use only in manufacturing processes and specifies the type(s) of products involved.

(2) Adequate information such as technical data sheets or bulletins, is available to the trade specifying the type of product involved and its proper use in manufacturing processes;

(3) The product will not come into the hands of the general public except after incorporation into finished products; and

(4) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(B) Detailed directions for use may be omitted from the labeling of pesticide products for which sale is limited to physicians, veterinarians, or druggists, provided that:

(1) The label clearly states that the product is for use only by physicians or veterinarians;

(2) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment; and

(3) The product is also a drug and regulated under the provisions of the Federal Food, Drug and Cosmetic Act.

(C) Detailed directions for use may be omitted from the labeling of pesticide products which are intended for use only by formulators in preparing pesticides for sale to the public, provided that:

(1) There is information readily available to the formulators on the composition, toxicity, methods of use, applicable restrictions or limitations, and effectiveness of the product for pesticide purposes;

(F) Other pertinent information which the Administrator determines to be necessary for the protection of man and the environment.

(j) Statement of Use Classification. By October 22, 1976, all pesticide products must bear on their labels a statement of use classification as described in paragraphs (j)(1) and (2) of this section. Any pesticide product for which some uses are classified for general use and others for restricted use shall be separately labeled according to the labeling standards set forth in this subsection, and shall be marketed as separate products with different registration numbers, one bearing directions only for general use(s) and the other bearing directions for restricted use(s) except that, if a product has both restricted use(s) and general use(s), both of these uses may appear on a product labeled for restricted use. Such products shall be subject to the provisions of § 162.10(j)(2).

(1) General Use Classification. Pesticide products bearing directions for use(s) classified general shall be labeled with the exact words "General Classification" immediately below the heading "Directions for Use." And reference to the general classification that suggests or implies that the general utility of the pesticide extends beyond those purposes and uses contained in the Directions for Use will be considered a false or misleading statement under the statutory definitions of misbranding.

(2) Restricted Use Classification. Pesticide products bearing direction for use(s) classified restricted shall bear statements of restricted use classification on the front panel as described below:

(i) Front panel statement of restricted use classification. (A) At the top of the front panel of the label, set in type of the same minimum sizes as required for human hazard signal words (see table in § 162.10(h)(1)(iv)), and appearing with sufficient prominence relative to other text and graphic material on the front panel to make it unlikely to be overlooked under customary conditions of purchase and use, the statement "Restricted Use Pesticide" shall appear.

(B) Directly below this statement on the front panel, a summary statement of the terms of restriction imposed as a precondition to registration shall appear. If use is restricted to certified applicators, the following statement is required: "For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification." If, however, other regulatory restrictions are imposed, the Administrator will define the appropriate wording for the terms of restriction by regulation.

(k) Advertising. [Reserved]

[40 FR 28268, July 3, 1975; 40 FR 32329, Aug. 1, 1975; 40 FR 38571, Aug. 21, 1975, as amended at 43 FR 5786, Feb. 9, 1978]

LABELING REQUIREMENTS OF THE FIFRA, AS AMENDED

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
1	Product name	All products	Front panel	Center front panel	
2	Company name and address	All products	None	Bottom front panel or end of label text	If registrant is not the producer, must be qualified by "Packed for . . .," "Distributed by. . .," etc.
3	Net contents	All products	None	Bottom front panel or end of label text	May be in metric units in addition to U.S. units
4	EPA Reg. No.	All products	None	Front panel	Must be in similar type size and run parallel to other type.
5	EPA Est. No.	All products	None	Front panel, immediately before or following Reg. No.	May appear on the container instead of the label.
6A	Ingredients statement	All products	Front panel	Immediately following product name	Text must run parallel with other text on the panel.
6B	Pounds/gallon statement	Liquid products where dosage given as lbs. ai/unit area	Front panel	Directly below the main ingredients statement	
7	Front panel precautionary statements	All products	Front panel		All front panel precautionary statements must be grouped together, preferably blocked.
7A	Keep Out of Reach of Children (Child hazard warning)	All products	Front panel	Above signal word	Note type size requirements.
7B	Signal word	All products	Front panel	Immediately below child hazard warning	Note type size requirements.

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
7C	Skull & crossbones and word POISON (in red)	All products which are Category I based on oral, dermal, or inhalation toxicity	Front panel	Both in close proximity to signal word	
7D	Statement of practical treatment	All products in Categories I, II, and III	Category I: Front panel unless referral statement is used. Others: Grouped with side panel precautionary statements.	Front panel for all.	
7E	Referral statement	All products where precautionary labeling appears on other than front panel.	Front panel		
8	Side/back panel precautionary statements	All products	None	Top or side of back panel preceding directions for use	Must be grouped under the headings in 8A, 8B, and 8C; preferably blocked.
8A	Hazards to humans and domestic animals	All products in Categories I, II, and III	None	Same as above	Must be preceded by appropriate signal word.
8B	Environmental hazards	All products	None	Same as above	Environmental hazards include bee caution where applicable.

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
8C	Physical or chemical hazards	All pressurized products, others with flash points under 150°F	None	Same as above	
9A	Restricted block	All restricted products	Top center of front panel	Preferably blocked	Includes a statement of the terms of restriction. The words "RESTRICTED USE PESTICIDE" must be same type size as signal word.
9C	Misuse statement	All products	Immediately following heading of directions for use		
10A	Reentry statement	All cholinesterase inhibitors	In the directions for use	Immediately after misuse statement	
10C	Storage and disposal block	All products	In the directions for use	Immediately before specific directions for use or at the end of directions for use	Must be set apart and clearly distinguishable from from other directions for use.
10D	Directions for use	All products	None	None	May be in metric as well as U.S. units

PHYSICAL-CHEMICAL HAZARDS

Criteria	Required Label Statement
I. Pressurized Containers	
A. Flashpoint at or below 20°F; or if there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
B. Flashpoint above 20°F and not over 80°F; or if the flame extension is more than 18 inches long at a distance of 6 inches from the valve opening.	Flammable. Contents under pressure. Keep away from heat, sparks, and flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
C. ALL OTHER PRESSURIZED CONTAINERS	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
II. Non-Pressurized Containers	
A. Flashpoint at or below 20°F.	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
B. Flashpoint above 20°F and not over 80°F.	Flammable. Keep away from heat and open flame.
C. Flashpoint over 80°F and not over 150°F.	Do not use or store near heat and open flame.
D. Flashpoint above 150°F.	None required.

STORAGE AND DISPOSAL INSTRUCTIONS FOR PESTICIDES

All products are required to bear specific label instructions about storage and disposal. Storage and disposal instructions must be grouped together in the directions for use portion of the label under the heading STORAGE AND DISPOSAL. Products intended solely for domestic use need not include the heading "STORAGE AND DISPOSAL." The STORAGE AND DISPOSAL heading must appear in the minimum type size listed below:

Size of label front panel in square inches	Required type size for the heading STORAGE AND DISPOSAL (all capitals)
10 and under	.6 point
Above 10 to 15	.8 point
Above 15 to 30	10 point
Over 30	12 point

Storage and disposal instructions must be set apart and clearly distinguishable from other directions for use. Blocking storage and disposal statements with a solid line is suggested as a means of increasing their prominence.

A. Storage Instructions:

All product labels are required to have appropriate storage instructions. Specific storage instructions are not prescribed. Each registrant must develop his own storage instructions, considering, when applicable, the following factors:

1. Conditions of storage that might alter the composition or usefulness of the pesticide. Examples could be temperature extremes, excessive moisture or humidity, heat, sunlight, friction, or contaminating substances or media.

2. Physical requirements of storage which might adversely affect the container of the product and its ability to continue to function properly. Requirements might include positioning of the container in storage, storage or damage due to stacking, penetration of moisture, and ability to withstand shock or friction.

3. Specifications for handling the pesticide container, including movement of container within the storage area, proper opening and closing procedures (particularly for opened containers), and measures to minimize exposure while opening or closing container.

4. Instructions on what to do if the container is damaged in any way, or if the pesticide is leaking or has been spilled, and precautions to minimize exposure if damage occurs.

5. General precautions concerning locked storage, storage in original container only, and separation of pesticides during storage to prevent cross-contamination of other pesticides, fertilizer, food, and feed.

6. General storage instructions for household products should emphasize storage in original container and placement in locked storage areas.

B. Pesticide Disposal Instructions:

The label of all products, except those intended solely for domestic use, must bear explicit instructions about pesticide disposal. The statements listed below contain the exact wording that must appear on the label of these products:

1. The labels of all products, except domestic use, must contain the statement, "Do not contaminate water, food, or feed by storage or disposal."

2. Except those products intended solely for domestic use, the labels of all products that contain active ingredients appearing on the "Acutely Hazardous" Commercial Pesticide Products List (RCRA "E" List) at the end of this appendix or are assigned to Toxicity Category I on the basis of oral or dermal toxicity, skin or eye irritation potential, or Toxicity Category I or II on the basis of acute inhalation toxicity must bear the following pesticide disposal statement:

   "Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

   The labels of all products, except those intended for domestic use, containing active or inert ingredients that appear on the "Toxic" Commercial Pesticide Products List (RCRA "F" List) at the end of this appendix or presently meet any of the criteria in Subpart C, 40 CFR 261 for a hazardous waste must bear the following pesticide disposal statement:

"Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

Labels for all other products, except those intended for domestic use, must bear the following pesticide disposal statement:

"Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility."

3. Products intended for domestic use only must bear the following disposal statement: "Securely wrap original container in several layers of newspaper and discard in trash."

C. Container Disposal Instructions

The label of each product must bear container disposal instructions appropriate to the type of container.

1. All products intended for domestic use must bear one of the following container disposal statements:

Container Type	Statement
Non-aerosol products (bottles, cans, jars)	Do not reuse container (bottle, can, jar). Rinse thoroughly before discarding in trash.
Non-aerosol products (bags)	Do not reuse bag. Discard bag in trash.
Aerosol products	Replace cap and discard containers in trash. Do not incinerate or puncture.

2. The labels for all other products must bear container disposal instructions, based on container type, listed below:

Container Type	Statement
Metal containers (non-aerosol)	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.
Plastic containers	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
Glass containers	Triple rinse (or equivalent). Then dispose of in a sanitary landfill or by other approved state and local procedures.
Fiber drums with liners	Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by state and local authorities. If drum is contaminated and cannot be reused[1], dispose of in the same manner.
Paper and plastic bags	Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.
Compressed gas cylinders	Return empty cylinder for reuse (or similar wording)

1/ Manufacturer may replace this phrase with one indicating whether and how fiber drum may be reused.

Pesticides that are hazardous wastes under 40 CFR 261.33(e) and (f) when discarded.

"Acutely Hazardous" Commercial Pesticides (RCRA "E" List)
Active Ingredients, (no inerts):

Acrolein
Aldicarb
Aldrin
Allyl alcohol
Aluminum phosphide
4-Aminopyridine
Arsenic acid
Arsenic pentoxide
Arsenic trioxide
Calcium cyanide
Carbon disulfide
p-Chloroaniline
Cyanides (soluble cyanide salts, not specified elsewere)
Cyanogen chloride
2-Cyclohexyl-4,6-dinitrophenol
Dieldrin
0,0-Diethyl S-[2-ethylthio)ethyl] phosphorodithioate
(disulfoton, Di-Syston)
0,0-Diethyl 0-pyrazinyl phosphorothioate (Zinophos)
Dimethoate
0,0-Dimethyl 0-p-nitrophenyl phosphorothioate (methyl parathion)
4,6-Dinitro-o-cresol and salts
4,6-Dinitro-o-cyclohexylphenol
2,4 Dinitrophenol
Dinoseb
Endosulfan
Endothall
Endrin
Famphur
Fluoroacetamide
Heptachlor
Hexanethyl tetraphosphate
Hydrocyanic acid
Hydrogen cyanide
Methomyl
alpha-Naphthylthiourea (ANTU)
Nicotine and salts
Octamethylpyrophosphoramide (OMPA, schradan)
Parathion

"Acutely Hazardous" Commercial Pesticides (RCRA "E" List)
Active Ingredients continued:

Phenylmercuric acetate (PMA)
Phorate
Potassium cyanide
Propargyl alcohol
Sodium azide
Sodium cyanide
Sodium fluoroacetate
Strychnine and salts
0,0,0,0-Tetraethyl dithiopyrophosphate (sulfotepp)
Tetraethyl pyrophosphate
Thallium sulfate
Thiofanox
Toxaphene
Warfarin
Zinc phosphide

"Toxic" Commercial Pesticide Products (RCRA "F" List)
Active Ingredients:

Acetone
Acrylonitrile
Amitrole
Benzene
Bis(2-ethylhexyl)pthalate
Cacodylic acid
Carbon tetrachloride
Chloral (hydrate)
Chlordane (technical)
Chlorobenzene
4-Chloro-m-cresol
Chloroform
o-Chlorophenol
4-Chloro-o-toluidine hydrochloride
Creosote
Cresylic acid
Cyclohexane
Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]-pentalen-2-one
(kepone, chlordecone)
1,2-Dibromo-3-chloropropane (DBCP)
Dibutyl phthalate
S-3,3-(Dichloroallyl diisopropylthiocarbamate (diallate, Avadex)
o-Dichlorobenzene
p-Dichlorobenzene
Dichlorodifluoromethane (Freon 12®)
3,5-Dichloro-N-(1,1-dimethyl-2-propynyl) benzamide (pronamide,Kerb)
Dichloro diphenyl dichloroethane (DDD)
Dichloro diphenyl trichloroethane (DDT)
Dichlorethyl ether
2,4-Dichlorophenoxyacetic, esters and salts (2,4-D)
1,2-Dichloropropane
1,3-Dichloropropane (Telone)
Dimethyl phthalate
Ethyl acetate
Ethyl 4,4'-dichlorobenzilate (chlorcbenzilate)
Ethylene dibromide (EDB)
Ethylene dichloride
Ethylene oxide
Formaldehyde
Furfural
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloroethane
Hydrofluoric acid

"Toxic" Commercial Pesticide Products (RCRA "F" List)
Active Ingredients:

Isobutyl alcohol
Lead acetate
Lindane
Maleic hydrazide
Mercury
Methyl alcohol
Methyl bromide
Methyl chloride
2,2'-Methylenebis (3,4,6-trichlorophenol) (hexachlorophene)
Methylene chloride
Methyl ethyl ketone
4-Methyl-2-pentanone (methyl isobutyl ketone)
Naphthalene
Nitrobenzene
p-Nitrophenol
Pentachloroethane
Pentachloronitrobenzene (PCNB)
Pentaclorophenol
Phenol
Phosphorodithioic acid, 0,0-diethyl, methyl ester
Propylene dichloride
Pyridine
Resorcinol
Safrole
Selenium disulfide
Silvex
1,2,4,5-Tetrachlorobenzene
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
2,3,4,6-Tetrachlorophenol
Thiram
Toluene
1,1,1-Trichloroethane
Trichloroethylene
Trichloromonofluoromethane (Freon 11®)
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)
Xylene

"Toxic" Commercial Pesticide Products (RCRA "F" List)
Inert Ingredients:

Acetone
Acetonitrile
Acetophenone
Acrylic acid
Aniline
Benzene
Chlorobenzene
Chloroform
Cyclohexane
Cyclohexanone
Dichlorodifluoromethane (Freon 12®)
Diethyl phthalate
Dimethylamine
Dimethyl phthalate
1,4-Dioxane
Ethylene oxide
Formaldehyde
Formic acid
Isobutyl alcohol
Meleic anhydride
Methyl alcohol (methanol)
Methyl ethyl ketone
Methyl methacrylate
Naphthalene
Saccharin and salts
Thiourea
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichlorofluoromethane (Freon 11®)
Vinyl chloride
Xylene